

System x3750 M4
Types 8722 and 8733



Installation and Service Guide

System x3750 M4
Types 8722 and 8733



Installation and Service Guide

Note: Before using this information and the product it supports, read the general information in “Notices” on page 501 and the *IBM Safety Information*, and *IBM Environmental Notices and User's Guide* on the *IBM Documentation CD*, and the *IBM Warranty Information* document that comes with the server.

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Safety

Before installing this product, read the Safety Information.

قبل تركيب هذا المنتج، يجب قراءة الملاحظات الأمنية

Antes de instalar este produto, leia as Informações de Segurança.

在安裝本产品之前，请仔细阅读 **Safety Information**
(安全信息)。

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας
(safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este producto, lea as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto zariadenia si pečítajte Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

ཐོན་རྒྱུ་འདི་བདེ་སྤྱད་མ་བྱས་གོང་། རྒྱུ་ཉི་ཡིད་གནམ་བ་
བྱ་འདྲ་མིན་ཡིད་པའི་འོད་ཟེར་བལྟ་དགོས།

ཐོན་རྒྱུ་འདི་བདེ་སྤྱད་མ་བྱས་གོང་། རྒྱུ་ཉི་ཡིད་གནམ་བ་
བྱ་འདྲ་མིན་ཡིད་པའི་འོད་ཟེར་བལྟ་དགོས།

مەزكۇر مەھسۇلاتنى ئورنىتىشتىن بۇرۇن بىخەتەرلىك ئۇچۇرلىرىنى ئوقۇپ چىقىڭ.

Youq mwngz yungh canjbij neix gaxgonq, itdingh aeu doeg aen
canjbij soengq cungj vahgangj ancien siusik.

Bu ürünü kurmadan önce güvenlik bilgilerini okuyun.

Antes de instalar este producto, lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

Important:

Each caution and danger statement in this documentation is labeled with a number. This number is used to cross reference an English language caution or danger statement with translated versions of the caution or danger statement in the *Safety Information* document.

For example, if a caution statement is labeled Statement 1, translations for that caution statement are in the *Safety Information* document under Statement 1.

Be sure to read all caution and danger statements in this document before you perform the procedures. Read any additional safety information that comes with the server or optional device before you install the device.

Statement 1



DANGER

Electrical current from power, telephone, and communication cables is hazardous.

To avoid a shock hazard:

- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- Connect all power cords to a properly wired and grounded electrical outlet.
- Connect to properly wired outlets any equipment that will be attached to this product.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following table when installing, moving, or opening covers on this product or attached devices.

To Connect:

1. Turn everything OFF.
2. First, attach all cables to devices.
3. Attach signal cables to connectors.
4. Attach power cords to outlet.
5. Turn device ON.

To Disconnect:

1. Turn everything OFF.
2. First, remove power cords from outlet.
3. Remove signal cables from connectors.
4. Remove all cables from devices.

Statement 2



CAUTION:

When replacing the lithium battery, use only IBM Part Number 33F8354 or an equivalent type battery recommended by the manufacturer. If your system has a module containing a lithium battery, replace it only with the same module type made by the same manufacturer. The battery contains lithium and can explode if not properly used, handled, or disposed of.

Do not:

- Throw or immerse into water
- Heat to more than 100°C (212°F)
- Repair or disassemble

Dispose of the battery as required by local ordinances or regulations.

Statement 3



CAUTION:

When laser products (such as CD-ROMs, DVD drives, fiber optic devices, or transmitters) are installed, note the following:

- Do not remove the covers. Removing the covers of the laser product could result in exposure to hazardous laser radiation. There are no serviceable parts inside the device.
- Use of controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.



DANGER

Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following.

Laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.

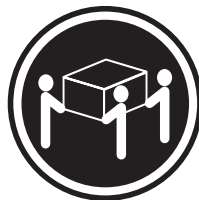


Class 1 Laser Product
Laser Klasse 1
Laser Klass 1
Luokan 1 Laserlaite
Appareil À Laser de Classe 1

Statement 4



≥ 18 kg (39.7 lb.)



≥ 32 kg (70.5 lb.)



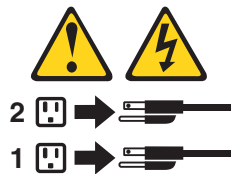
≥ 55 kg (121.2 lb.)

CAUTION:
Use safe practices when lifting.

Statement 5



CAUTION:
The power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.



Statement 6



CAUTION:
Do not place any objects on top of a rack-mounted device unless that rack-mounted device is intended for use as a shelf.

Statement 8



CAUTION:
Never remove the cover on a power supply or any part that has the following label attached.



Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

Statement 12



CAUTION:

The following label indicates a hot surface nearby.



Statement 26



CAUTION:

Do not place any object on top of rack-mounted devices.



Statement 35:



CAUTION:

Hazardous energy present. Voltages with hazardous energy might cause heating when shorted with metal, which might result in splattered metal, burns, or both.

This server is suitable for use on an IT power-distribution system whose maximum phase-to-phase voltage is 240 V under any distribution fault condition.

Important: Maschinenlärminformations-Verordnung - 3. GPSGV, der höchste Schalldruckpegel beträgt 70 dB(A) oder weniger.

Guidelines for trained service technicians

This section contains information for trained service technicians.

Inspecting for unsafe conditions

Use the information in this section to help you identify potential unsafe conditions in an IBM product that you are working on. Each IBM product, as it was designed and manufactured, has required safety items to protect users and service technicians from injury. The information in this section addresses only those items.

Use good judgment to identify potential unsafe conditions that might be caused by non-IBM alterations or attachment of non-IBM features or options that are not addressed in this section. If you identify an unsafe condition, you must determine how serious the hazard is and whether you must correct the problem before you work on the product.

Consider the following conditions and the safety hazards that they present:

- Electrical hazards, especially primary power. Primary voltage on the frame can cause serious or fatal electrical shock.
- Explosive hazards, such as a damaged CRT face or a bulging capacitor.
- Mechanical hazards, such as loose or missing hardware.

To inspect the product for potential unsafe conditions, complete the following steps:

1. Make sure that the power is off and the power cord is disconnected.
2. Make sure that the exterior cover is not damaged, loose, or broken, and observe any sharp edges.
3. Check the power cord:
 - Make sure that the third-wire ground connector is in good condition. Use a meter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and the frame ground.
 - Make sure that the power cord is the correct type, as specified in “Power cords” on page 195.
 - Make sure that the insulation is not frayed or worn.
4. Remove the top cover.
5. Check for any obvious non-IBM alterations. Use good judgment as to the safety of any non-IBM alterations.
6. Check inside the server for any obvious unsafe conditions, such as metal filings, contamination, water or other liquid, or signs of fire or smoke damage.
7. Check for worn, frayed, or pinched cables.
8. Make sure that the power-supply cover fasteners (screws or rivets) have not been removed or tampered with.

Guidelines for servicing electrical equipment

Observe the following guidelines when you service electrical equipment:

- Check the area for electrical hazards such as moist floors, nongrounded power extension cords, power surges, and missing safety grounds.
- Use only approved tools and test equipment. Some hand tools have handles that are covered with a soft material that does not provide insulation from live electrical currents.
- Regularly inspect and maintain your electrical hand tools for safe operational condition. Do not use worn or broken tools or testers.
- Do not touch the reflective surface of a dental mirror to a live electrical circuit. The surface is conductive and can cause personal injury or equipment damage if it touches a live electrical circuit.
- Some rubber floor mats contain small conductive fibers to decrease electrostatic discharge. Do not use this type of mat to protect yourself from electrical shock.
- Do not work alone under hazardous conditions or near equipment that has hazardous voltages.

- Locate the emergency power-off (EPO) switch, disconnecting switch, or electrical outlet so that you can turn off the power quickly in the event of an electrical accident.
- Disconnect all power before you perform a mechanical inspection, work near power supplies, or remove or install main units.
- Before you work on the equipment, disconnect the power cord. If you cannot disconnect the power cord, have the customer power-off the wall box that supplies power to the equipment and lock the wall box in the off position.
- Never assume that power has been disconnected from a circuit. Check it to make sure that it has been disconnected.
- If you have to work on equipment that has exposed electrical circuits, observe the following precautions:
 - Make sure that another person who is familiar with the power-off controls is near you and is available to turn off the power if necessary.
 - When you are working with powered-on electrical equipment, use only one hand. Keep the other hand in your pocket or behind your back to avoid creating a complete circuit that could cause an electrical shock.
 - When you use a tester, set the controls correctly and use the approved probe leads and accessories for that tester.
 - Stand on a suitable rubber mat to insulate you from grounds such as metal floor strips and equipment frames.
- Use extreme care when you measure high voltages.
- To ensure proper grounding of components such as power supplies, pumps, blowers, fans, and motor generators, do not service these components outside of their normal operating locations.
- If an electrical accident occurs, use caution, turn off the power, and send another person to get medical aid.

Chapter 1. The System x3750 M4 Types 8722 and 8733 server

This *Installation and Service Guide* contains information and instructions for setting up your IBM® System x3750 M4 Types 8722 and 8733 server, instructions for installing some optional devices, cabling and configuring the server, removing and replacing devices, and diagnostics and troubleshooting information.

In addition to the instructions in Chapter 2, “Installing optional devices,” on page 23 for installing optional hardware devices, updating firmware and device drivers, and completing the installation, IBM Business Partners must also complete the steps in “Instructions for IBM Business Partners” on page 24.

The IBM System x3750 M4 Types 8722 and 8733 server is a 2U-high rack model, four-socket server for virtualization, database, and computational intensive computing. It is the next generation enterprise server based on the Intel Xeon™ EP 4S E5-4600 technology. This high-performance server is ideally suited for enterprise environments that require superior input/output (I/O) flexibility and high manageability.

Performance, ease of use, reliability, and expansion capabilities were key considerations in the design of the server. These design features make it possible for you to customize the system hardware to meet your needs today and provide flexible expansion capabilities for the future.

The server comes with a limited warranty. For information about the terms of the warranty and getting service and assistance, see the *IBM Warranty Information* document that comes with the server.

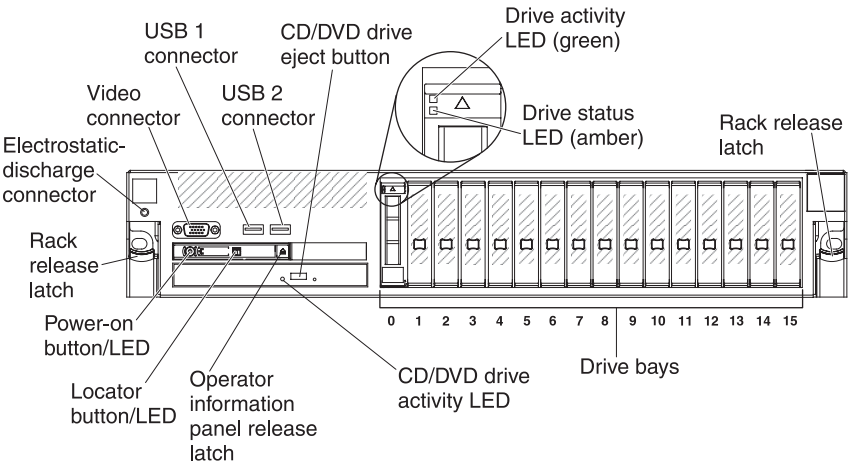
The server contains IBM next generation technologies, which help increase performance and reliability. For more information, see “What your server offers” on page 8 and “Reliability, availability, and serviceability” on page 13.

You can obtain up-to-date information about the server and other IBM server products at <http://www.ibm.com/systems/x/>. At <http://www.ibm.com/support/mysupport/>, you can create a personalized support page by identifying IBM products that are of interest to you. From this personalized page, you can subscribe to weekly email notifications about new technical documents, search for information and downloads, and access various administrative services.

If you participate in the IBM client reference program, you can share information about your use of technology, best practices, and innovative solutions; build a professional network; and gain visibility for your business. For more information about the IBM client reference program, see <http://www.ibm.com/ibm/clientreference/>.

The server supports up to sixteen 2.5-inch hot-swap drives or thirty-two 1.8-inch hot-swap drives, or a combination of both 2.5-inch and 1.8-inch drives, using the supported drive backplane configurations. It supports 2.5-inch hot-swap Serial Attached SCSI (SAS) or SATA hard disk drives, 2.5-inch hot-swap SATA solid state drives (SSD), or 1.8-inch hot-swap SATA solid state drives. See “Supported SAS/SATA drive backplane configurations” on page 52 for a complete list of the supported configurations. The illustrations in this document might differ slightly from your hardware.

The following illustration shows the front of the server.



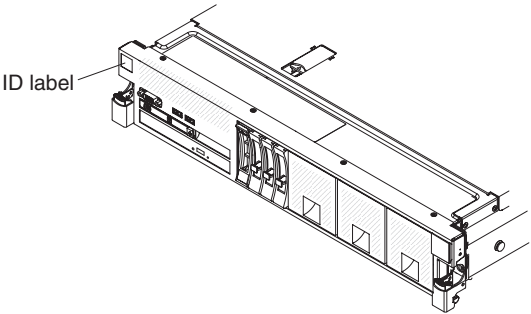
If firmware and documentation updates are available, you can download them from the IBM website. The server might have features that are not described in the documentation that comes with the server, and the documentation might be updated occasionally to include information about those features, or technical updates might be available to provide additional information that is not included in the server documentation. To check for updates, go to <http://www.ibm.com/supportportal/>.

Record information about the server in the following table.

Product name	IBM System x3750 M4
Machine type	Types 8722 or 8733
Model number	_____
Serial number	_____

The model number and serial number are on the ID label on the front of the server, as shown in the following illustration.

Note: The illustrations in this document might differ slightly from your hardware.



You can download an IBM *ServerGuide Setup and Installation* CD to help you configure the hardware, install device drivers, and install the operating system.

For a list of supported optional devices for the server, see <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/>.

See the *Rack Installation Instructions* document on the IBM Documentation CD for complete rack installation and removal instructions.

The IBM Documentation CD

The IBM *Documentation* CD contains documentation for the server in Portable Document Format (PDF) and includes the IBM Documentation Browser to help you find information quickly.

Hardware and software requirements

The IBM *Documentation* CD requires the following minimum hardware and software:

- Microsoft Windows or Red Hat Linux
- 100 MHz microprocessor
- 32 MB of RAM
- Adobe Acrobat Reader 3.0 (or later) or xpdf, which comes with Linux operating systems

Using the Documentation Browser

Use the Documentation Browser to browse the contents of the CD, read brief descriptions of the documents, and view documents, using Adobe Acrobat Reader or xpdf. The Documentation Browser automatically detects the regional settings in use in your server and displays the documents in the language for that region (if available). If a document is not available in the language for that region, the English-language version is displayed.

Use one of the following procedures to start the Documentation Browser:

- If Autostart is enabled, insert the CD into the CD or DVD drive. The Documentation Browser starts automatically.
- If Autostart is disabled or is not enabled for all users, use one of the following procedures:
 - If you are using a Windows operating system, insert the CD into the CD or DVD drive and click **Start -> Run**. In the **Open** field, type
`e:\win32.bat`

where *e* is the drive letter of the CD or DVD drive, and click **OK**.

- If you are using Red Hat Linux, insert the CD into the CD or DVD drive; then, run the following command from the `/mnt/cdrom` directory:
`sh runlinux.sh`

Select the server from the **Product** menu. The **Available Topics** list displays all the documents for the server. Some documents might be in folders. A plus sign (+) indicates each folder or document that has additional documents under it. Click the plus sign to display the additional documents.

When you select a document, a description of the document is displayed under **Topic Description**. To select more than one document, press and hold the Ctrl key while you select the documents. Click **View Book** to view the selected document or documents in Acrobat Reader or xpdf. If you selected more than one document, all the selected documents are opened in Acrobat Reader or xpdf.

To search all the documents, type a word or word string in the **Search** field and click **Search**. The documents in which the word or word string appears are listed in order of the most occurrences. Click a document to view it, and press Ctrl+F to use the Acrobat search function, or press Alt+F to use the xpdf search function within the document.

Click **Help** for detailed information about using the Documentation Browser.

Related documentation

This *Installation and Service Guide* contains general information about the server including how to set up and cable the server, how to install supported optional devices, how to configure the server, and information to help you solve problems yourself and information for service technicians. The following documentation also comes with the server:

- *Warranty Information*

This document is in printed format and comes with the server. It contains warranty terms and a pointer to the IBM Statement of Limited Warranty on the IBM website.

- *Important Notices*

This document is in printed format and comes with the server. It contains information about the safety, environmental, and electronic emission notices for your IBM product.

- *Environmental Notices and User Guide*

This document is in PDF format on the IBM *Documentation CD*. It contains translated environmental notices.

- *IBM License Agreement for Machine Code*

This document is in PDF on the IBM *Documentation CD*. It provides translated versions of the *IBM License Agreement for Machine Code* for your product.

- *Licenses and Attributions Document*

This document is in PDF on the IBM *Documentation CD*. It provides the open source notices.

- *Safety Information*

This document is in PDF on the IBM *Documentation CD*. It contains translated caution and danger statements. Each caution and danger statement that appears in the documentation has a number that you can use to locate the corresponding statement in your language in the *Safety Information* document.

- *Rack Installation Instructions*

This printed document contains instructions for installing the server in a rack.

Depending on the server model, additional documentation might be included on the IBM *Documentation CD*.

The ToolsCenter for System x and BladeCenter is an online information center that contains information about tools for updating, managing, and deploying firmware, device drivers, and operating systems. The ToolsCenter for System x and BladeCenter is at <http://publib.boulder.ibm.com/infocenter/toolctr/v1r0/index.jsp>.

The server might have features that are not described in the documentation that you received with the server. The documentation might be updated occasionally to include information about those features, or technical updates might be available

to provide additional information that is not included in the server documentation. These updates are available from the IBM website. To check for updates, go to <http://www.ibm.com/supportportal/>.

Notices and statements in this document

The caution and danger statements in this document are also in the multilingual *Safety Information* document, which is on the IBM *Documentation* CD. Each statement is numbered for reference to the corresponding statement in your language in the *Safety Information* document.

The following notices and statements are used in this document:

- **Note:** These notices provide important tips, guidance, or advice.
- **Important:** These notices provide information or advice that might help you avoid inconvenient or problem situations.
- **Attention:** These notices indicate potential damage to programs, devices, or data. An attention notice is placed just before the instruction or situation in which damage might occur.
- **Caution:** These statements indicate situations that can be potentially hazardous to you. A caution statement is placed just before the description of a potentially hazardous procedure step or situation.
- **Danger:** These statements indicate situations that can be potentially lethal or extremely hazardous to you. A danger statement is placed just before the description of a potentially lethal or extremely hazardous procedure step or situation.

Server features and specifications

The following information is a summary of the features and specifications of the server. Depending on the model, some features might not be available, or some specifications might not apply.

Table 1. Server features and specifications

<p>Microprocessor (depending on the model):</p> <ul style="list-style-type: none"> Supports up to four of the following Intel Xeon™ EP 4S E5-4600 versions of the microprocessors. Note: The third and fourth microprocessor sockets are on the optional IBM Microprocessor and Memory Expansion tray that you must purchase to install up to four microprocessors. Four-core with 10 MB shared among cores Six-core Turbo with 12 MB, 15 MB, or 16 MB shared among cores Eight-core Turbo with 20 MB shared among cores (depending on your model) Up to 20 MB Level-3 cache Two QuickPath Interconnect (QPI) links speed up to 8 gigatransfers (GT) per second, with two QPI links per microprocessor (Depending on the microprocessor, link speed can range from 6.4 GT/s, 7.2 GT/s, or 8 GT/s.) Four memory channels per microprocessor that supports three DIMMs per channel Intel EP 4S microprocessor + C600 series chipset (PCH) HyperThreading Up to 40 PCIe Gen3 lanes per processor on the base system board <p>Note:</p> <ul style="list-style-type: none"> Use the Setup utility to determine the type and speed of the microprocessors in the server. 	<p>Memory (depending on the model):</p> <ul style="list-style-type: none"> Connectors: 48 dual inline memory module connectors (24 on the base system board and 24 on the optional microprocessor and memory expansion tray). Minimum: 4 GB Maximum: up to 1.5 TBs (768 GB on the base system board and 768 GB on the optional microprocessor and memory expansion tray). Type: PC3-12800R 1600 MHz, PC3L-10600R-999 1333 MHz or PC3L-10600 1333 MHz Load Reduced (LR) single-rank, double-rank, or quad-rank, ECC, 240 pin, DDR3 registered SDRAM DIMMs only Supports 4 GB, 8 GB, 16 GB standard RDIMMs and 16 GB and 32 GB LR-DIMMs Supports 1.35-volt and 1.5-volt registered DIMMs (see “Installing a memory module” on page 40 for more information) 	<p>Drive expansion bays (depending on the model):</p> <ul style="list-style-type: none"> Supports up to sixteen 2.5 inch drives, up to thirty-two 1.8- inch drives, or a combination of both 2.5-inch and 1.8-inch hot-swap drives, using the supported SAS, SATA, or SSD backplane configurations. The following drives are supported: <ul style="list-style-type: none"> 2.5-inch hot-swap SAS or hot-swap SATA hard disk drive 1.8-inch hot-swap SATA solid state drive (SSD) 2.5-inch hot-swap SATA solid state drive (SSD)
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Table 1. Server features and specifications (continued)

<p>Optional SATA optical drives:</p> <ul style="list-style-type: none"> Optional DVD-ROM Blu-Ray (cable comes mounted to the optical drive bracket in the server) <p>Hot-swap fans:</p> <p>The server comes standard with six dual-motor, counter-rotating, speed-controlled hot-swap fans for N+N redundancy.</p> <p>PCI expansion slots (depending on your model):</p> <ul style="list-style-type: none"> Five x8 low-profile, PCIe Gen3 adapter slots on the system board Three x8 (x16 mechanical) PCIe Gen3 full-height, half-length adapter slots on the optional PCI riser card <p>Note: The second microprocessor must be installed on the system board for the server to support PCIe slots 4 and 5 on the system board and the optional PCIe riser card.</p>	<p>Integrated functions:</p> <ul style="list-style-type: none"> Integrated management module II (IMM2), which provides service processor control and monitoring functions, video controller, and remote keyboard, video, mouse, and remote hard disk drive capabilities Onboard Emulex BE3 dual port 1 Gb Ethernet controller with iSCSI, vNIC, TCP/IP Offload Engine (TOE), Fiber Channel over Ethernet (FCoE), and Wake on LAN support <p>Note: The Ethernet controller can provide up to 10 Gb capability when you install an optional Ethernet adapters.</p> <ul style="list-style-type: none"> Onboard LSI 2208 SAS/SATA RAID controller with support for RAID levels 0, 1, and 10 and an optional cache card socket. In addition, the optional RAID cache cards and Features on Demand (FoD) software RAID can provide additional RAID levels support. Light path diagnostics Six Universal Serial Bus (USB) 2.0 ports: <ul style="list-style-type: none"> Two on the front of the server Two on the rear of the server Two internal connectors on the system board Two 1 Gb Ethernet ports on the system board and two additional ports when the optional IBM Dual-port 10 Gb-T (copper) Ethernet Adapter or the optional IBM Dual-port 10 Gb SFP+ (fibre) Ethernet Adapter is installed One systems-management RJ-45 connector on the rear to connect to a systems-management network. This connector is dedicated to the IMM v2 functions and runs at 1 Gb speed. One serial port 	<p>Power supply:</p> <ul style="list-style-type: none"> The server comes standard with one 900-watt or one 1400-watt power supply (depending on the model). Maximum of two 900-watt (110 or 220 V ac auto-sensing) or two 1400-watt ac (110 or 220 V ac auto-sensing) hot-swap power supplies. Two 1400-watt hot-swap power supplies fed from a 220 V input source provides N+N redundancy support for a full configurations. Two 900-watt or two 1400-watt hot-swap power supplies fed from a 110 V input source provides N+N redundancy support for limited configurations. <p>Note: The optional IBM Power Interposer for Redundant Power option or the optional IBM Microprocessor and Memory Expansion Tray must be installed to support two power supplies.</p> <p>Video controller (integrated into the IMM2):</p> <ul style="list-style-type: none"> Matrox G200eR core (two analog ports: one front and one rear that can be connected at the same time) <p>Note: The maximum video resolution is 1600 x 1200 at 75 Hz (UXGA), with support for 1680 x 1050 (WSXGA+) wide screen resolution.</p> <ul style="list-style-type: none"> DDR3 528 MHz SDRAM video memory controller Avocent Digital Video Compression Video memory is not expandable
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Table 1. Server features and specifications (continued)

<p>RAID controllers:</p> <p>The following RAID options are available for the server:</p> <ul style="list-style-type: none"> • ServeRAID M5110 SAS/SATA Controller for IBM System x • ServeRAID M1115 SAS/SATA Controller for IBM System x • ServeRAID M5120 SAS/SATA Controller for IBM System x <p>Size:</p> <ul style="list-style-type: none"> • Height: 86.5 mm (3.4 inches, 2U) • Depth: 722 mm (28.4 inches) • Width: 440 mm (17.3 inches) • Maximum weight: 31.3 kg (69 lb) when fully configured <p>Acoustical noise emissions:</p> <ul style="list-style-type: none"> • Sound power, idling: 6.6 bels maximum • Sound power, operating: 7.0 bels maximum <p>Note:</p> <p>With microprocessor loading, levels might fluctuate ± 0.3 bels, depending on the application. Maximum configuration of n=4; 130 W processors might run at 0.3 bels higher with microprocessor loading.</p>	<p>Environment:</p> <ul style="list-style-type: none"> • Air temperature: <ul style="list-style-type: none"> – Server on: 5° to 40°C (41° to 104°F); altitude: 0 to 3048 m (10,000 ft) derate maximum dry bulb temperature 1°C (33°F) per 175 m (574 ft) above 950 m (3,117 ft). Maximum rate of change 20°C (68°F) per hour. – Server off: 5° to 45°C (41° to 113°F) – Shipment: -40°C to +60°C (-40°F to 140°F) • Humidity range (noncondensing): <ul style="list-style-type: none"> – Server on: Minimum = higher (more moisture) of -12°C (10°F) dew point and 8% to 85% relative humidity; maximum dew point: 24°C (75°F) – Server off: 8% to 85% relative humidity; maximum dew point: 27°C (80°F) – Shipment: 5% to 100% • Particulate contamination <p>Attention: Airborne particulates and reactive gases acting alone or in combination with other environmental factors such as humidity or temperature might pose a risk to the server. For information about the limits for particulates and gases, see “Particulate contamination” on page 503.</p> <p>Airflow:</p> <ul style="list-style-type: none"> • Ideal airflow: 35 cubic feet per minute (CFM) • Typical airflow: 50 CFM • Maximum airflow: 160 CFM 	<p>Heat output:</p> <p>Approximate heat output:</p> <ul style="list-style-type: none"> • Minimum configuration: 95 Btu per hour (28 watts) • Maximum configuration: 6580 Btu per hour (1928 watts) <p>Electrical input:</p> <ul style="list-style-type: none"> • Sine-wave input (50 or 60 Hz) required • Input voltage low range: <ul style="list-style-type: none"> – Minimum: 100 V ac – Maximum: 127 V ac • Input voltage high range: <ul style="list-style-type: none"> – Minimum: 200 V ac – Maximum: 240 V ac • Input kilovolt-amperes (kVA), approximately: <ul style="list-style-type: none"> – Minimum: 0.030 kVA (system off) – Maximum: 1.856 kVA <p>Notes:</p> <ol style="list-style-type: none"> 1. Power consumption and heat output vary depending on the number and type of optional features installed and the power-management optional features in use. 2. The sound levels were measured in controlled acoustical environments according to the procedures specified by the American National Standards Institute (ANSI) S12.10 and ISO 7779 and are reported in accordance with ISO 9296. Actual sound-pressure levels in a given location might exceed the average values stated because of room reflections and other nearby noise sources. The noise emission level stated in the declared (upper limit) sound-power level, in bels, for a random sample of system.
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What your server offers

The server uses the following features and technologies:

- **Active Energy Manager**

The IBM Active Energy Manager solution is an IBM Systems Director extension that measures and reports server power consumption as it occurs. This enables you to monitor power consumption in correlation to specific software application programs and hardware configurations. You can obtain the measurement values through the systems-management interface and view them, using IBM Systems Director. For more information, including the required levels

of IBM Systems Director and Active Energy Manager, see the IBM Systems Director documentation on the *IBM Systems Director* DVD, or see <http://www.ibm.com/systems/software/director/aem/index.html/>.

- **Dynamic System Analysis (DSA)**

The server comes with the IBM Dynamic System Analysis (DSA) Preboot diagnostic program stored in the integrated USB memory on the server. DSA collects and analyzes system information to aid in diagnosing server problems, as well as offering a rich set of diagnostic tests of the major components of the server. DSA creates a DSA log, which is a chronologically ordered merge of the system-event log (as the IPMI event log), the integrated management module (IMM) event log (as the ASM event log), and the operating-system event logs. You can send the DSA log as a file to IBM Support or view the information as a text file or HTML file.

Two editions of Dynamic System Analysis are available: DSA Portable and DSA Preboot. For more information about both editions, see “DSA editions” on page 163.

- **Features on Demand software Ethernet support**

The server provides Features on Demand software Ethernet support. You can purchase a Features on Demand software upgrade activation key for Fiber Channel over Ethernet and iSCSI storage protocols that is provided through the integrated Emulex BE3 Ethernet controller. For more information, see “Enabling Features on Demand Ethernet software” on page 137.

- **Features on Demand software RAID support**

The server provides Features on Demand software RAID support for RAID levels 5, 6, 50, and 60 upgrade. Features on Demand software RAID upgrade is integrated into the integrated management module II (IMM2). For more information, see “Enabling Features on Demand RAID software” on page 137.

- **IBM next generation technology**

IBM next generation technology systems combine proven, innovative IBM designs to make your x86-processor-based server powerful and reliable. For more information, see <http://www.ibm.com/servers/eserver/xseries/xarchitecture/enterprise/index.html>.

- **IBM ServerGuide Setup and Installation CD**

The *ServerGuide Setup and Installation* CD, which you can download from the web, provides programs to help you set up the server and install a Windows operating system. The ServerGuide program detects installed optional hardware devices and provides the correct configuration programs and device drivers. For more information about the *ServerGuide Setup and Installation* CD, see “Using the ServerGuide Setup and Installation CD” on page 123.

- **IBM Systems Director**

IBM Systems Director is a platform-management foundation that streamlines the way you manage physical and virtual systems in a heterogeneous environment. By using industry standards, IBM Systems Director supports multiple operating systems and virtualization technologies for IBM and non-IBM x86 platforms. For more information about IBM Systems Director, see “IBM Systems Director” on page 14.

- **Integrated management module II (IMM2)**

The integrated management module II (IMM2) combines service processor functions, video controller, and remote presence and blue-screen capture features in a single chip. The IMM provides advanced service-processor control, monitoring, and alerting function. If an environmental condition exceeds a threshold or if a system component fails, the IMM lights LEDs to help you

diagnose the problem, records the error in the IMM event log, and alerts you to the problem. Optionally, the IMM also provides a virtual presence capability for remote server management capabilities. The IMM provides remote server management through the following industry-standard interfaces:

- Intelligent Platform Management Interface (IPMI) version 2.0
- Simple Network Management Protocol (SNMP) version 3.0
- Common Information Model (CIM)
- Web browser

For additional information, see “Using the integrated management module” on page 132 and the *Integrated Management Module II User's Guide* at <http://www.ibm.com/support/entry/portal/docdisplay?lnocid=MIGR-5089484>.

- **Integrated network support**

The server comes with an integrated Emulex BE3 Ethernet controller that supports embedded dual-port 1 Gb connections and the optional dual-port 10 Gb-T and the optional dual-port 10Gb SFP+Fiber Ethernet adapters. The Ethernet controller supports connection to a 10 Mbps, 100 Mbps, or 1000 Mbps network. For more information, see “Configuring the Ethernet controller” on page 137.

- **Integrated Trusted Platform Module (TPM)**

This integrated security chip performs cryptographic functions and stores private and public secure keys. It provides the hardware support for the Trusted Computing Group (TCG) specification. You can download the software to support the TCG specification, when the software is available. See http://www.ibm.com/servers/eserver/xseries/scalable_family.html for details about the TPM implementation. You can enable TPM support through the Setup utility under the **System Security** menu choice (see “Using the Setup utility” on page 125).

- **Large data-storage capacity and hot-swap capability**

The server can support a maximum of sixteen 2.5-inch drives, thirty-two 3.5-inch drives, or a combination of both 2.5-inch and 3.5-inch drives when you use the supported SAS/SATA backplane configurations. The server supports 2.5-inch hot-swap Serial Attached SCSI (SAS) hard disk drives or hot-swap Serial ATA (SATA) hard disk drives, 2.5-inch hot-swap solid state drives (SSD), or 3.5-inch hot-swap solid state drives.

With the hot-swap feature, you can add, remove, or replace hard disk drives without turning off the server.

- **Large system-memory capacity**

The server can support up to 1.5 TB of system memory. The server base system board provides 24 dual inline memory module (DIMM) connectors for up to 768 GB of memory. For additional memory capacity, an optional microprocessor and memory expansion tray is available for purchase that provides 24 DIMMs for up to 768 GB of additional memory (depending on the DIMM size) and two additional microprocessor sockets. The server memory controller supports error correcting code (ECC) for up to 48 industry-standard PC3-12800R 1600 MHz, PC3L-10600R-999 1333 MHz or PC3L-10600 1333 MHz Load Reduced (LR), single-rank, dual-rank, or quad-rank, DDR3 (third-generation double-data-rate), registered, synchronous dynamic random access memory (SDRAM) DIMMs.

- **Light path diagnostics**

Light path diagnostics provides LEDs to help you diagnose problems. For more information about light path diagnostics and the LEDs, see “Light path diagnostics” on page 17 and “Light path diagnostics LEDs” on page 152.

- **Memory mirroring**

Memory mirroring provides a redundant copy of all code and data that are addressable in the configured memory map. Through the microprocessor memory controller chip set, memory mirroring replicates and stores data across DIMMs on two or four memory channels simultaneously. If a failure occurs, the memory controller switches from the DIMMs on the primary channel to the DIMMs on the backup channel. To enable memory mirroring through the Setup utility, select **System Settings → Memory → Memory Mode → Mirroring**. For information about installing DIMMs for memory mirroring, see “Memory mirroring” on page 43 and “Installing a memory module” on page 40 for more information.

- **Memory sparing**

The server supports memory sparing. Memory sparing reserves memory capacity for failover in the event of a DIMM failure, and the reserved capacity is subtracted from the total available memory. Memory sparing provides less redundancy than memory mirroring does. If a predetermined threshold of correctable errors is reached, the contents of the failing DIMM are copied to the spare memory, and the failing DIMM or rank is disabled. To enable memory sparing through the Setup utility, select **System Settings → Memory → Memory Mode → Sparing**. For information about installing DIMMs for memory sparing, see “Memory sparing” on page 45.

- **Multi-core processors**

The server supports up to four Intel Xeon™ EP 4S E5-4600 series, four-core, six-core, and eight-core microprocessors (depending on your model). The server comes with a minimum of one microprocessor.

Note: To install the third and fourth microprocessors, you must purchase and install an optional microprocessor and memory expansion tray. Both of the microprocessors must be installed as a pair on the microprocessor and memory expansion tray.

- **PCI Express Gen3 adapter capabilities**

The server provides up to eight PCIe Gen3 adapter slots. The system board provides five low-profile PCIe Gen3 adapter slots and the optional PCI riser-card provides three x8 (x16 mechanical) PCIe Gen3 adapter slots. See “Installing an adapter” on page 64 for detailed information.

Note: The second microprocessor must be installed on the system board for the server to support more than three PCIe slots on the system board or the optional PCI riser card.

- **Redundant connection**

The integrated Emulex BE3 dual-port Ethernet controller provides failover capability to a redundant Ethernet connection with the applicable application installed. If a problem occurs with the primary Ethernet connection and an optional Ethernet adapter is installed in the server, all Ethernet traffic that is associated with the primary connection is automatically switched to an optional Ethernet connection. If the applicable device drivers are installed, this switching occurs without data loss and without user intervention.

- **Redundant cooling and optional power capabilities**

The server comes with six dual-motor, counter-rotating, speed-controlled hot-swap fans, which provide redundancy and hot-swap capability for a full configuration. The redundant cooling by the fans in the server enables continued operation if one of the fan motors fails.

The server comes with one 900-watt or one 1400-watt hot-swap power supply. The server supports a maximum of two 900-watt or two 1400-watt hot-swap power supplies. For redundancy support, two power supplies must be installed in the server. Two power supplies enables continued operation if one of the power supplies fails. You can order the optional IBM Power Interposer for Redundant Power Option Kit or the optional IBM Microprocessor and Memory Expansion Tray to install a second power supply.

- **Remote presence and blue-screen capture features**

The remote presence and blue-screen capture features are integrated functions of the integrated management module (IMM). The remote presence feature provides the following functions:

- Remotely viewing video with graphics resolutions up to 1600 x 1200 at 75 Hz, regardless of the system state
- Remotely accessing the server, using the keyboard and mouse from a remote client
- Mapping the CD or DVD drive, diskette drive, and USB flash drive on a remote client, and mapping ISO and diskette image files as virtual drives that are available for use by the server
- Uploading a diskette image to the IMM memory and mapping it to the server as a virtual drive

The blue-screen capture feature captures the video display contents before the IMM restarts the server when the IMM detects an operating-system hang condition. A system administrator can use the blue-screen capture feature to assist in determining the cause of the hang condition.

See “Using the remote presence and blue-screen capture features” on page 134 for additional information.

- **ServeRAID support**

A ServeRAID adapter provides hardware redundant array of independent disks (RAID) support to create configurations. The server comes with an integrated RAID controller, which provides RAID levels 0, 1 and 10. Additional optional RAID adapters, RAID cache cards, and Features on Demand software RAID are available for RAID levels 5, 6, 50, and 60 upgrade.

- **Systems-management capabilities**

The server comes with an integrated management module II (IMM2). When the IMM is used with the systems-management software that comes with the server, you can manage the functions of the server locally and remotely. The IMM also provides system monitoring, event recording, and network alert capability. The systems-management connector on the rear of the server is dedicated to the IMM. The dedicated systems-management connector provides additional security by physically separating the management network traffic from the production network. You can use the Setup utility to configure the server to use a dedicated systems-management network or a shared network.

- **TCP/IP offload engine (TOE) support**

The Ethernet controllers in the server support TOE, which is a technology that offloads the TCP/IP flow from the microprocessor and I/O subsystem to increase the speed of the TCP/IP flow. When an operating system that supports TOE is running on the server and TOE is enabled, the server supports TOE operation. See the operating-system documentation for information about enabling TOE.

Note: As of the date of this document, the Linux operating system does not support TOE.

- **UEFI-compliant server firmware**

The UEFI firmware offers several features, including Unified Extensible Firmware Interface (UEFI) version 2.1 compliance, Active Energy Management (AEM) technology, enhanced reliability, availability, and serviceability (RAS) capabilities, and basic input/output system (BIOS) compatibility support. UEFI replaces the BIOS and defines a standard interface between the operating system, platform firmware, and external devices. The server is capable of booting UEFI-compliant operating systems, BIOS-based operating systems, and BIOS-based adapters as well as UEFI-compliant adapters. For more information about UEFI-compliant firmware, go to <http://www.ibm.com/systems/support/supportsite.wss/docdisplay?lnocid=MIGR-5083207&brandind=5000008>.

Note: The server does not support DOS.

- **VMware ESXi embedded hypervisor**

An optional USB flash device with VMware ESXi embedded hypervisor software is available for purchase. Hypervisor is virtualization software that enables multiple operating systems to run on a host system at the same time. Install the USB flash device in the USB embedded hypervisor flash device connectors on the system board (see “System-board internal connectors” on page 26). See “Using the embedded hypervisor” on page 136 for additional information.

Reliability, availability, and serviceability

Three important computer design features are reliability, availability, and serviceability (RAS). The RAS features help to ensure the integrity of the data that is stored in the server, the availability of the server when you need it, and the ease with which you can diagnose and correct problems.

Your server has the following RAS features:

- 3-year parts and 3-year labor limited warranty (Machine Type 8722)
- 24-hour support center
- Automatic error retry and recovery
- Automatic restart on nonmaskable interrupt (NMI)
- Automatic restart after a power failure
- Backup basic input/output system switching under the control of the integrated management module (IMM)
- Built-in monitoring for fan, power, temperature, voltage, and power-supply redundancy
- Cable-presence detection on most connectors
- Chipkill memory protection
- Single-device data correction (SDDC) for x4 DRAM technology DIMMs (available on 16 GB DIMMs only). Ensures that data is available on a single x4 DRAM DIMM after a hard failure of up to two DRAM DIMMs. One x4 DRAM DIMM in each rank is reserved as a spare device.
- Diagnostic support for ServeRAID and Ethernet adapters
- Error codes and messages
- Error correcting code (ECC) L3 cache and system memory
- Full Array Memory Mirroring (FAMM) redundancy
- Hot-swap cooling fans with speed-sensing capability
- Hot-swap hard disk drives
- Hot-swap power supplies
- Information and light path diagnostics LED panels
- Integrated management module (IMM)
- Light path diagnostics LEDs for DIMMs, microprocessors, hard disk drives, solid state drives, power supplies, and fans

- Memory mirroring and memory sparing support
- Memory error correcting code and parity test
- Memory downsizing (non-mirrored memory). After a restart of the server after the memory controller detects a non-mirrored uncorrectable error and the memory controller cannot recover operationally, the IMM logs the uncorrectable error and informs POST. POST logically maps out the memory with the uncorrectable error, and the server restarts with the remaining installed memory.
- Menu-driven setup, system configuration, and redundant array of independent disks (RAID) configuration programs
- Microprocessor built-in self-test (BIST), internal error signal monitoring, internal thermal trip signal monitoring, configuration checking, and microprocessor and voltage regulator module failure identification through light path diagnostics
- Nonmaskable interrupt (NMI) button
- Parity checking on the PCIe buses
- Power management: compliance with Advanced Configuration and Power Interface (ACPI)
- Power-on self-test (POST)
- Predictive Failure Analysis (PFA) alerts on memory, SAS/SATA hard disk drives or solid state drives
- Redundant Ethernet capabilities with failover support
- Redundant hot-swap power supplies and redundant hot-swap fans
- Redundant network interface card (NIC) support
- Remind button to temporarily turn off the system-error LED
- Remote system problem-determination support
- ROM-based diagnostics
- ROM checksums
- Serial Presence Detection (SPD) on memory, VPD on system board, power supply, and hard disk drive or solid state drive backplanes, microprocessor and memory expansion tray, and Ethernet adapters
- Single-DIMM isolation of excessive correctable error or multi-bit error by the Unified Extensible Firmware Interface (UEFI)
- Solid-state drives
- Standby voltage for systems-management features and monitoring
- Startup (boot) from LAN through remote initial program load (RIPL) or dynamic host configuration protocol/boot protocol (DHCP/BOOTP)
- System auto-configuring from the configuration menu
- System-error logging (POST and IMM)
- Systems-management monitoring through the Inter-Integrated Circuit (I2C) protocol bus
- Uncorrectable error (UE) detection
- Upgradeable POST, Unified Extensible Firmware Interface (UEFI), diagnostics, IMM firmware, and read-only memory (ROM) resident code, locally or over the LAN
- Vital product data (VPD) on microprocessors, system board, power supplies, and SAS/SATA (hot-swap hard disk drive or solid state drive) backplane
- Wake on LAN capability

IBM Systems Director

IBM Systems Director is a platform-management foundation that streamlines the way you manage physical and virtual systems in a heterogeneous environment. By using industry standards, IBM Systems Director supports multiple operating systems and virtualization technologies in IBM and non-IBM x86 platforms.

Through a single user interface, IBM Systems Director provides consistent views for viewing managed systems, determining how these systems relate to one other,

and identifying their statuses, helping to correlate technical resources with business needs. A set of common tasks that are included with IBM Systems Director provides many of the core capabilities that are required for basic management, which means instant out-of-the-box business value. The common tasks include discovery, inventory, configuration, system health, monitoring, updates, event notification, automation for managed systems, hardware log, power, and light path.

The IBM Systems Director web and command-line interfaces provide a consistent interface that is focused on driving these common tasks and capabilities:

- Discovering, navigating, and visualizing systems on the network with the detailed inventory and relationships to the other network resources
- Notifying users of problems that occur on systems and the ability to isolate the source of the problem
- Notifying users when systems need updates and distributing and installing updates on a schedule
- Analyzing real-time data for systems and setting critical thresholds that notify the administrator of emerging problems
- Configuring settings of a single system and creating a configuration plan that can apply those settings to multiple systems
- Updating installed plug-ins to add new features and functions to the base capabilities
- Managing the life cycles of virtual resources

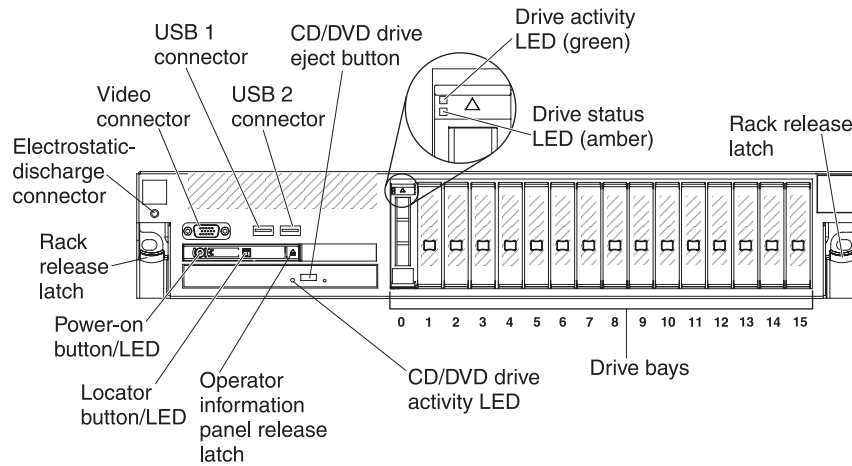
For more information about IBM Systems Director, see the IBM Systems Director Information Center at http://publib.boulder.ibm.com/infocenter/director/pubs/index.jsp?topic=%2Fcom.ibm.director.main.helps.doc%2Ffqm0_main.html, and the Systems Management web page at <http://www.ibm.com/systems/management/>, which presents an overview of IBM Systems Management and IBM Systems Director.

Server controls, LEDs, and power

This section describes the controls and light-emitting diodes (LEDs) and how to turn the server on and off. For the locations of other LEDs on the system board, see “System-board LEDs” on page 30.

Front view

The following illustration shows the controls, LEDs, and connectors on the front of the server.



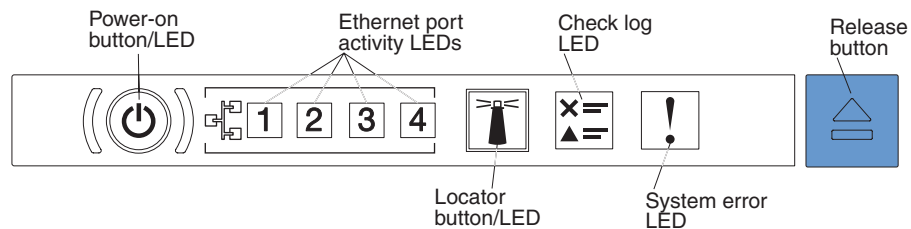
- **Rack release latches:** Press the latch on each front side of the server to slide the server out of the rack.
- **Electrostatic-discharge connector:** Connect an electrostatic-discharge wrist strap to this connector when you work with static-sensitive devices.
- **Drive status LEDs:** These LEDs are on SAS or SATA hard disk drives and solid state drives. When one of these LEDs is lit, it indicates that the drive has failed. When this LED is flashing slowly (one flash per second), it indicates that the drive is being rebuilt. When the LED is flashing rapidly (three flashes per second), it indicates that the controller is identifying the drive.
- **Drive activity LEDs:** These LEDs are on SAS or SATA hard disk drives and solid state drives. Each hot-swap drive has an activity LED, and when this LED is flashing, it indicates that the drive is in use.
- **CD/DVD eject button:** Press this button to release a DVD or CD from the CD/DVD drive.
- **CD/DVD drive activity LED:** When this LED is lit, it indicates that the CD-RW/DVD drive is in use.
- **Operator information panel:** This panel contains controls and LEDs that provide information about the status of the server. For information about the controls and LEDs on the operator information panel, see “Operator information panel.”
- **Operator information panel release button:** Press the blue release button and pull out the light path diagnostics panel to view the light path diagnostics LEDs and buttons. See “Light path diagnostics” on page 17, “Light path diagnostics” on page 149, and “Light path diagnostics LEDs” on page 152 for more information about light path diagnostics.
- **Video connector:** Connect a monitor to this connector. The video connectors on the front and rear of the server can be used simultaneously.

Note: The maximum video resolution is 1600 x 1200 at 75 Hz.

- **USB connectors:** Connect a USB device, such as a USB mouse, keyboard, or other device, to any of these connectors.

Operator information panel

The following illustration shows the controls and LEDs on the operator information panel.



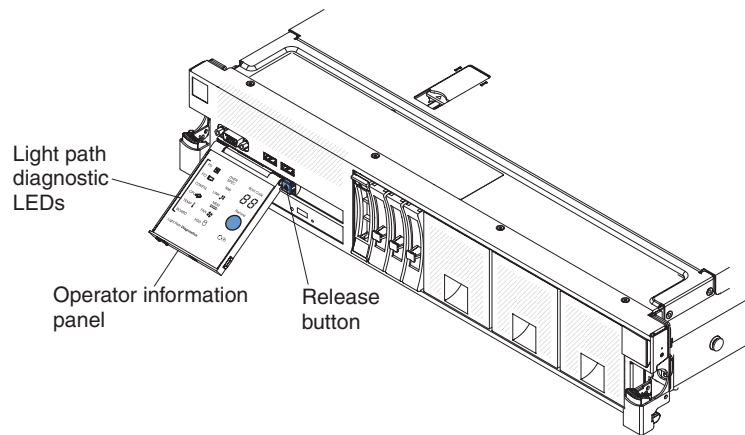
- Power-on button/LED:** Press this button to turn the server on and off manually or to wake the server from a reduced-power state. The states of the power-on LED are as follows:
 - Off:** Input power is not present, or the power supply or the LED itself has failed.
 - Flashing rapidly (3 times per second):** The server is turned off and is not ready to be turned on. The power-on button is disabled. This lasts approximately 10 seconds after input power has been applied or restored.
 - Flashing slowly (once per second):** The server is turned off and is ready to be turned on. You can press the power-on button to turn on the server.
 - Lit:** The server is turned on.
- Ethernet port activity LEDs:** When any of these LEDs is flashing or flickering, it indicates that the server is transmitting to or receiving signals from the Ethernet LAN that is connected to the Ethernet port that corresponds to that LED.
- Locator button/LED:** Use this blue LED to visually locate the server among other servers. This LED is also used as a presence detection button. You can use IBM Systems Director to light this LED remotely. This LED is controlled by the IMM. When you press the locator button, the LED will be lit and it will continue to be lit until you press it again to turn it off. Press the locator button to visually locate the server among other servers. It is also used as the physical presence for the Trusted Platform Module (TPM).
- Check log LED:** When this amber LED is lit, it indicates that there are errors that require further diagnosis. Check the IMM event log for additional information. See “Event logs” on page 159 for more information about event logs.
- System-error LED:** When this amber LED is lit, it indicates that a system error has occurred. A system-error LED is also on the rear of the server. An LED on the light path diagnostics panel on the operator information panel is also lit to help isolate the error. This LED is controlled by the IMM.

Light path diagnostics

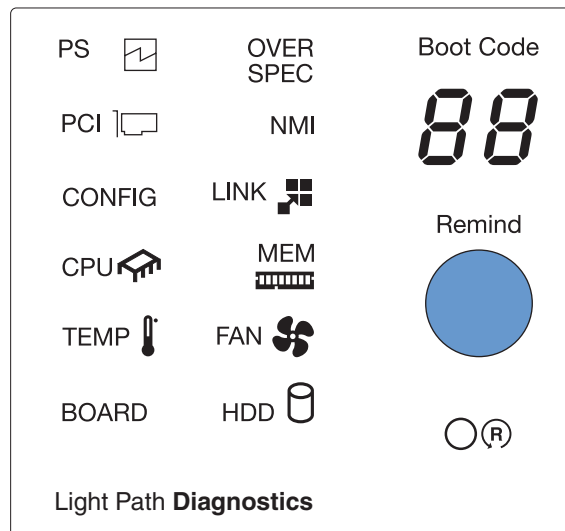
The light path diagnostics LEDs are on the top of the operator information panel. For additional information about light path diagnostics and LEDs, see “Light path diagnostics” on page 149 and “Light path diagnostics LEDs” on page 152.

Note: The system service label on the underside of the cover also provides information about the location of the light path diagnostics LEDs.

To access the light path diagnostics LEDs, press the blue release button on the operator information panel and pull forward on the unit until the hinge of the operator panel is free of the server chassis. Then pull down on the unit so that you can view the light path diagnostics LEDs.



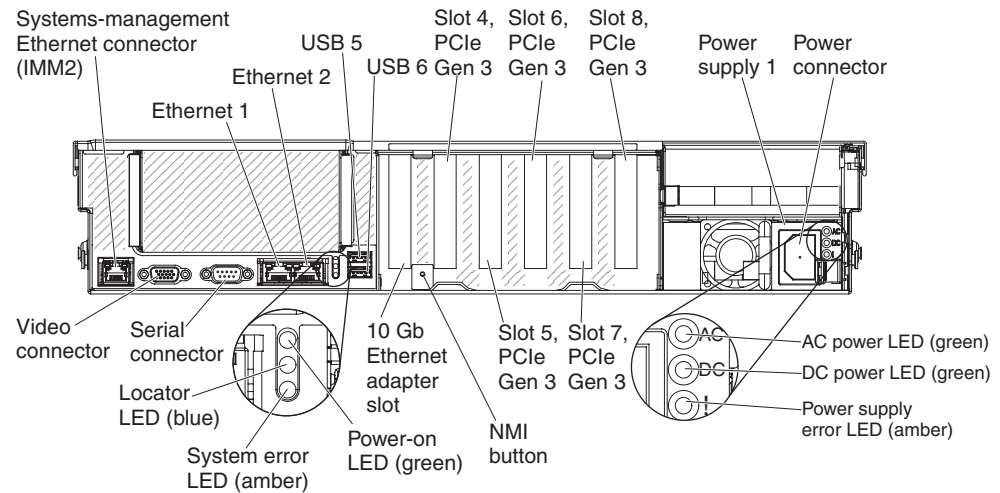
The following illustration shows the LEDs and controls on the light path diagnostics panel.



- **Remind button:** This button places the system-error LED on the operator information panel into Remind mode. In Remind mode, the system-error LED flashes once every 2 seconds until the problem is corrected, the server is restarted, or a new problem occurs.
By placing the system-error LED indicator in Remind mode, you acknowledge that you are aware of the last failure but will not take immediate action to correct the problem.
- **Boot code display:** This display provides boot error codes that indicates the point at which the system stopped during the boot block and POST. A boot code is a byte value that is produced by UEFI. In addition to UEFI codes, this display provide error codes in the event of a microprocessor error or a power fault. Along with the IMM event log, the error codes can provide suggested components to be replaced.
- **Reset button:** Press this button to reset the server and run the power-on self-test (POST). You might have to use a pen or the end of a straightened paper clip to press the button. The Reset button is in the lower-right corner of the light path diagnostics panel.

Rear view

The following illustrations show the connectors and LEDs on the rear of the server.



- **Systems-management Ethernet connector:** Use this connector to manage the server, by using a dedicated management network. If you use this connector, the IMM cannot be accessed directly from the production network. A dedicated management network provides additional security by physically separating the management network traffic from the production network. You can use the Setup utility to configure the server to use a dedicated systems-management network or a shared network.
- **Video connector:** Connect a monitor to this connector. The video connectors on the front and rear of the server can be used simultaneously.

Note: The maximum video resolution is 1600 x 1200 at 75 Hz.

- **Serial connector:** Connect a 9-pin serial device to this connector. The serial port is shared with the integrated management module (IMM). The IMM can take control of the shared serial port to redirect serial traffic, using Serial over LAN (SOL).
- **Ethernet connectors:** Use either of these connectors to connect the server to a network. When you use the Ethernet 1 connector, the network can be shared with the IMM through a single network cable.
- **Ethernet activity LEDs:** When these LEDs are lit, they indicate that the server is transmitting to or receiving signals from the Ethernet LAN that is connected to the Ethernet port.
- **Ethernet link LEDs:** When these LEDs are lit, they indicate that there is an active link connection on the 100BASE-TX, 1000BASE-TX, or 10GBASE-TX interface for the Ethernet port.
- **Locator LED:** Use this LED to visually locate the server among other servers. You can use IBM Systems Director to light this LED remotely. IMM can also be used to turn this LED on and off. This LED is functionally equivalent to the locator LED on the front of the server.
- **System-error LED:** When this LED is lit, it indicates that a system error has occurred. An LED on the light path diagnostics panel is also lit to help isolate the error. This LED is functionally equivalent to the system-error LED on the front of the server.
- **Power-on LED:** When this LED is lit and not flashing, it indicates that the server is turned on. This LED is functionally equivalent to the power-on LED on the front of the server. The states of the power-on LED are as follows:

Off: Input power is not present, or the power supply or the LED itself has failed.

Flashing rapidly (3 times per second): The server is turned off and is not ready to be turned on. The power-on button is disabled. This lasts approximately 10 seconds after input power has been applied or restored.

Flashing slowly (once per second): The server is turned off and is ready to be turned on. You can press the power-on button to turn on the server.

Lit: The server is turned on.

- **USB connectors:** Connect a USB device, such as a USB mouse, keyboard, or other device, to any of these connectors.
- **NMI button:** Press this button to force a nonmaskable interrupt to the microprocessor. You might have to use a pen or the end of a straightened paper clip to press the button. You can also use it to force a blue-screen memory dump. Use this button only when you are directed to do so by IBM Support.
- **Ethernet adapter (10 Gb) slot:** Insert the dual-port 10 Gb-T (copper) Ethernet adapter or the dual-port 10 Gb SFP+ (fibre) Ethernet adapter into this slot (see “System-board internal connectors” on page 26 for the location of the Ethernet adapter slot on the system board).
- **PCIe adapter slots:** Insert the PCIe adapters into these slots (see “System-board internal connectors” on page 26 for the locations of the PCIe adapter slots on the system board). See Table 15 on page 65 and “Installing an adapter” on page 64 for information about adapters.
- **Power-supply connector:** Connect the power cord to this connector.
- **AC power LED:** Each hot-swap power supply has an ac power LED and a dc power LED. When the ac power LED is lit, it indicates that sufficient power is being supplied to the power supply through the power cord. During normal operation, both the ac and dc power LEDs are lit. For any other combination of LEDs, see “Power-supply LEDs” on page 156.
- **DC power LED:** Each hot-swap power supply has a dc power LED and an ac power LED. When the dc power LED is lit, it indicates that the power supply is supplying adequate dc power to the system. During normal operation, both the ac and dc power LEDs are lit. For any other combination of LEDs, see “Power-supply LEDs” on page 156.

Server power features

When the server is connected to a suitable input power source but is not turned on, the operating system does not run, and all core logic except for the service processor (the integrated management module) is shut down; however, the server can respond to requests to the service processor, such as a remote request to turn on the server. The power-on LED flashes and indicates that the server is connected to input power but is not turned on.

Turning on the server

Approximately 5 seconds after the server is connected to input power, one or more fans might start running and the power-on LED flashes quickly. Approximately 10 seconds after the server is connected to input power, the power-on button becomes active. After the power-on button becomes active, the power-on LED flashes slowly. You can turn on the server by pressing the power-on button.

If a power failure occurs while the server is turned on, the server will restart automatically when power is restored.

Note: To disable this feature in the Setup utility (see “Using the Setup utility” on page 125), select **System Settings** → **Integrated Management Module** → **Power Restore Policy**.

Turning off the server

When you turn off the server and leave it connected to input power, the server can respond to requests to the service processor (the integrated management module), such as a remote request to turn on the server. While the server remains connected to input power, one or more fans might continue to run. To remove all power from the server, you must disconnect it from the power source.

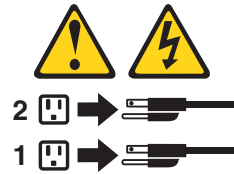
Some operating systems require an orderly shutdown before you turn off the server. See your operating-system documentation for information about shutting down the operating system.

Statement 5



CAUTION:

The power control button on the device do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.



The server can be turned off in any of the following ways:

- You can turn off the server from the operating system, if your operating system supports this feature. After an orderly shutdown of the operating system, the server will turn off automatically.
- You can press the power-on button to start an orderly shutdown of the operating system and turn off the server, if your operating system supports this feature.
- If the operating system stops functioning, you can press and hold the power-on button for more than 4 seconds to turn off the server.
- The integrated management module (IMM) can turn off the server as an automatic response to a critical system failure.

Chapter 2. Installing optional devices

This chapter provides detailed instructions for installing optional hardware devices in the server.

Attention: Installing the wrong firmware or device-driver update might cause the server to malfunction. Before you install a firmware or device-driver update, read any readme and change history files that are provided with the downloaded update. These files contain important information about the update and the procedure for installing the update, including any special procedure for updating from an early firmware or device-driver version to the latest version.

In addition to the instructions in this chapter for installing optional hardware devices, updating the firmware and device drivers, and completing the installation, IBM Business Partners must also complete the steps in “Instructions for IBM Business Partners” on page 24.

Important: To help ensure that the devices that you install work correctly and do not introduce problems, observe the following precautions:

1. Make sure that the server and the installed firmware levels support the devices that you are installing. If necessary, update the UEFI and IMM firmware and any other firmware that is stored on the system board. For information about where firmware is stored in the server, see “Updating the firmware” on page 121. For a list of supported optional devices for the server, see <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/>.
2. Use the best practices to apply current firmware and device-driver updates for the server and optional devices. To download the *IBM System x Firmware Update Best Practices* document, go to <http://www.ibm.com/support/entry/portal/docdisplay?brand=50000020&lnocid=MIGR-5082923>. Additional hints and tips are available from the following sites:
 - IBM support: <http://www.ibm.com/supportportal/>
 - System x configuration tools: <http://www.ibm.com/systems/x/hardware/configtools.html>
3. Before you install optional hardware devices, make sure that the server is working correctly. Start the server and make sure that the operating system starts, if an operating system is installed, or that a 19990305 error code is displayed, indicating that an operating system was not found but the server is otherwise working correctly. If the server is not working correctly, see “Running the DSA Preboot diagnostic programs” on page 164 for information about how to run diagnostics.
4. Follow the installation procedures in this chapter and use the correct tools. Incorrectly installed devices can cause system failure because of damaged pins in sockets or connectors, loose cabling, or loose components.

Instructions for IBM Business Partners

In addition to the instructions in this chapter for installing optional hardware devices, updating firmware and device drivers, and completing the installation, IBM Business Partners must also complete the following steps:

Attention: Installing the wrong firmware or device-driver update might cause the server to malfunction. Before you install a firmware or device-driver update, read any readme and change history files that are provided with the downloaded update. These files contain important information about the update and the procedure for installing the update, including any special procedure for updating from an early firmware or device-driver version to the latest version.

1. After you have confirmed that the server starts correctly and recognizes the newly installed devices and that no error LEDs are lit, run the Dynamic System Analysis (DSA) stress test. For information about using DSA, see “IBM Dynamic System Analysis” on page 162.
2. Shut down and restart the server multiple times to ensure that the server is correctly configured and functions correctly with the newly installed devices.
3. Save the DSA log as a file and send it to IBM. For information about transferring data and logs, see “How to send DSA data to IBM.”
4. To ship the server, repack it in the original undamaged packing material and observe IBM procedures for shipping.

Support information for IBM Business Partners is available at http://www.ibm.com/partnerworld/pwhome.nsf/weblook/index_us.html.

How to send DSA data to IBM

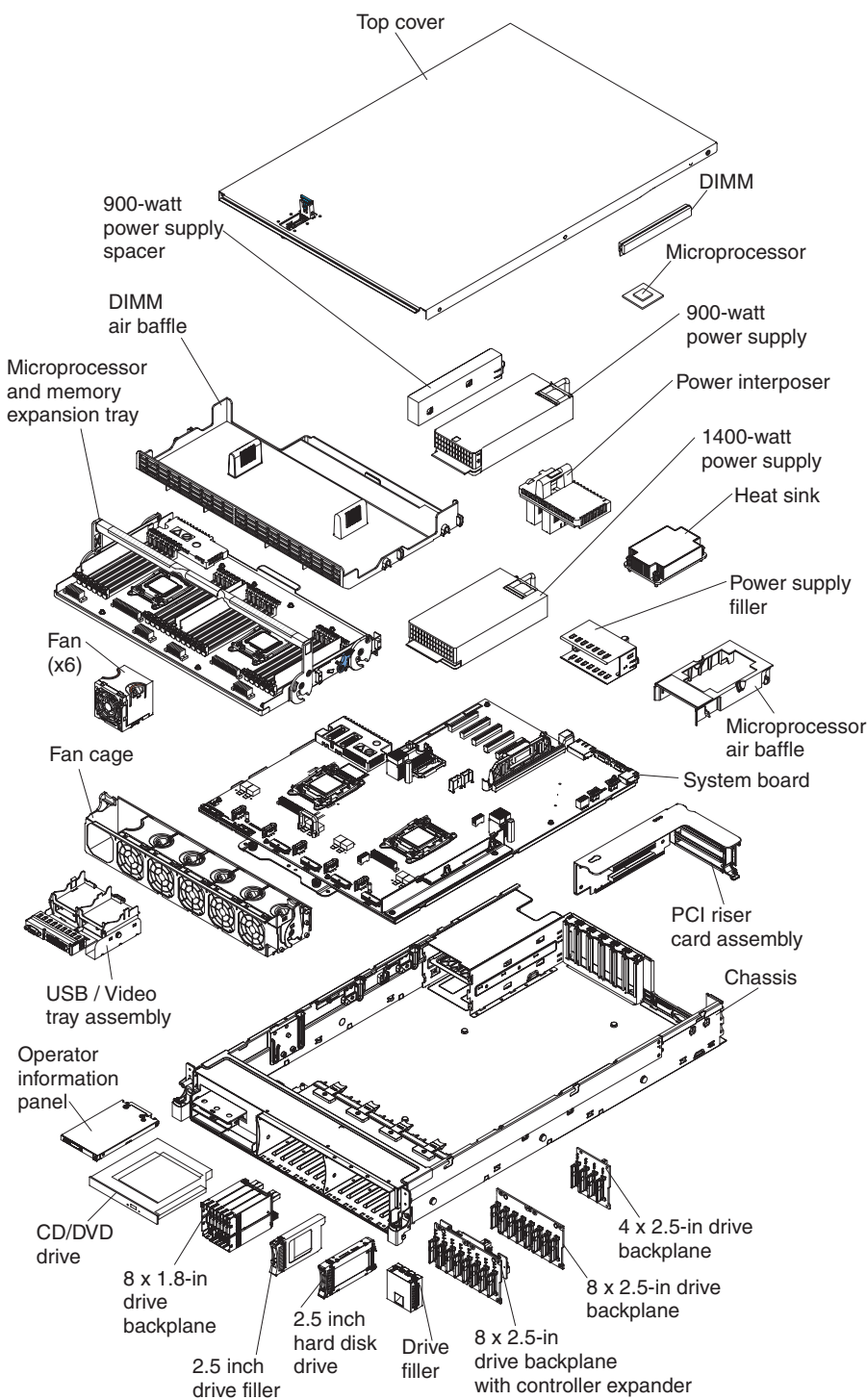
Before you send diagnostic data to IBM, read the terms of use at <http://www.ibm.com/de/support/ecurep/terms.html>.

You can use any of the following methods to send diagnostic data to IBM:

- **Standard upload:** http://www.ibm.com/de/support/ecurep/send_http.html
- **Standard upload with the system serial number:** http://www.ecurep.ibm.com/app/upload_hw
- **Secure upload:** http://www.ibm.com/de/support/ecurep/send_http.html#secure
- **Secure upload with the system serial number:** https://www.ecurep.ibm.com/app/upload_hw

Server components

The following illustration shows the major components in the server. The illustrations in this document might differ slightly from your hardware.



Blue on a component indicates touch points, where you can grip the component to remove it from or install it in the server, open or close a latch, and so on.

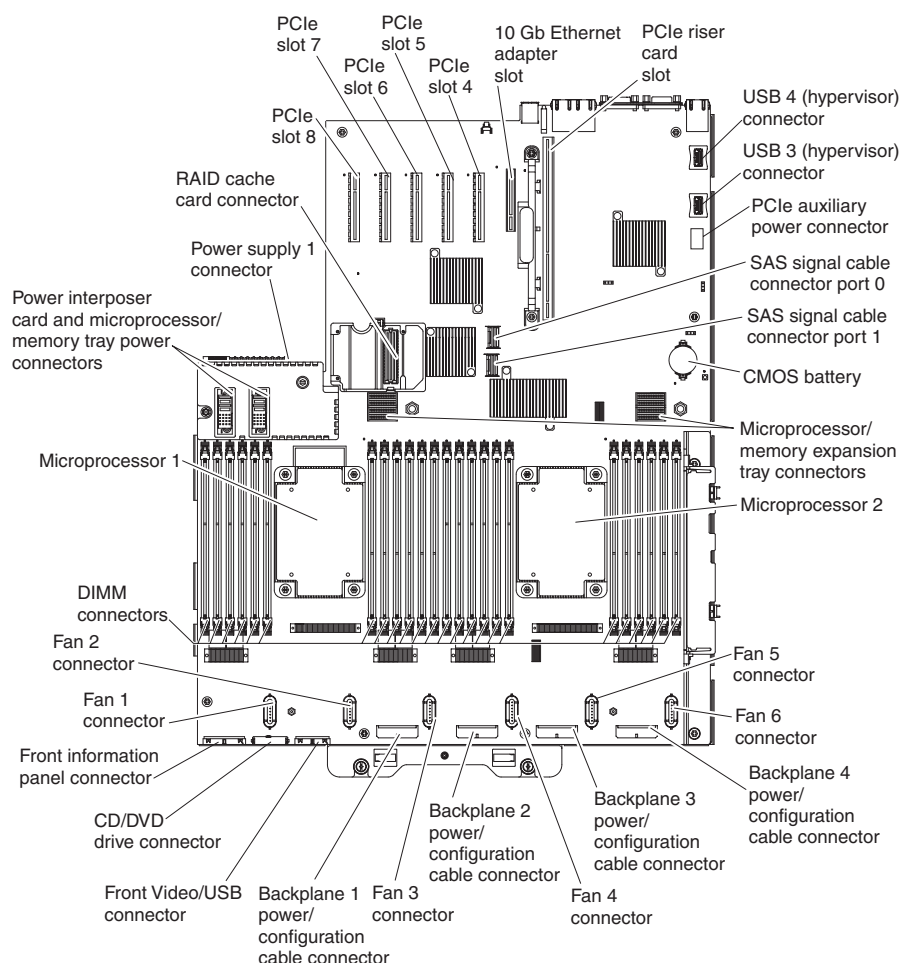
Orange on a component or an orange label on or near a component indicates that the component can be hot-swapped, which means that if the server and operating

system support hot-swap capability, you can remove or install the component while the server is running. (Orange can also indicate touch points on hot-swap components.) See the instructions for removing or installing a specific hot-swap component for any additional procedures that you might have to perform before you remove or install the component.

The illustrations in the following sections show the connectors, LEDs, and jumpers on the system board. In addition, illustrations of the connectors and LEDs on the optional microprocessor and memory expansion tray and the PCIe riser card.

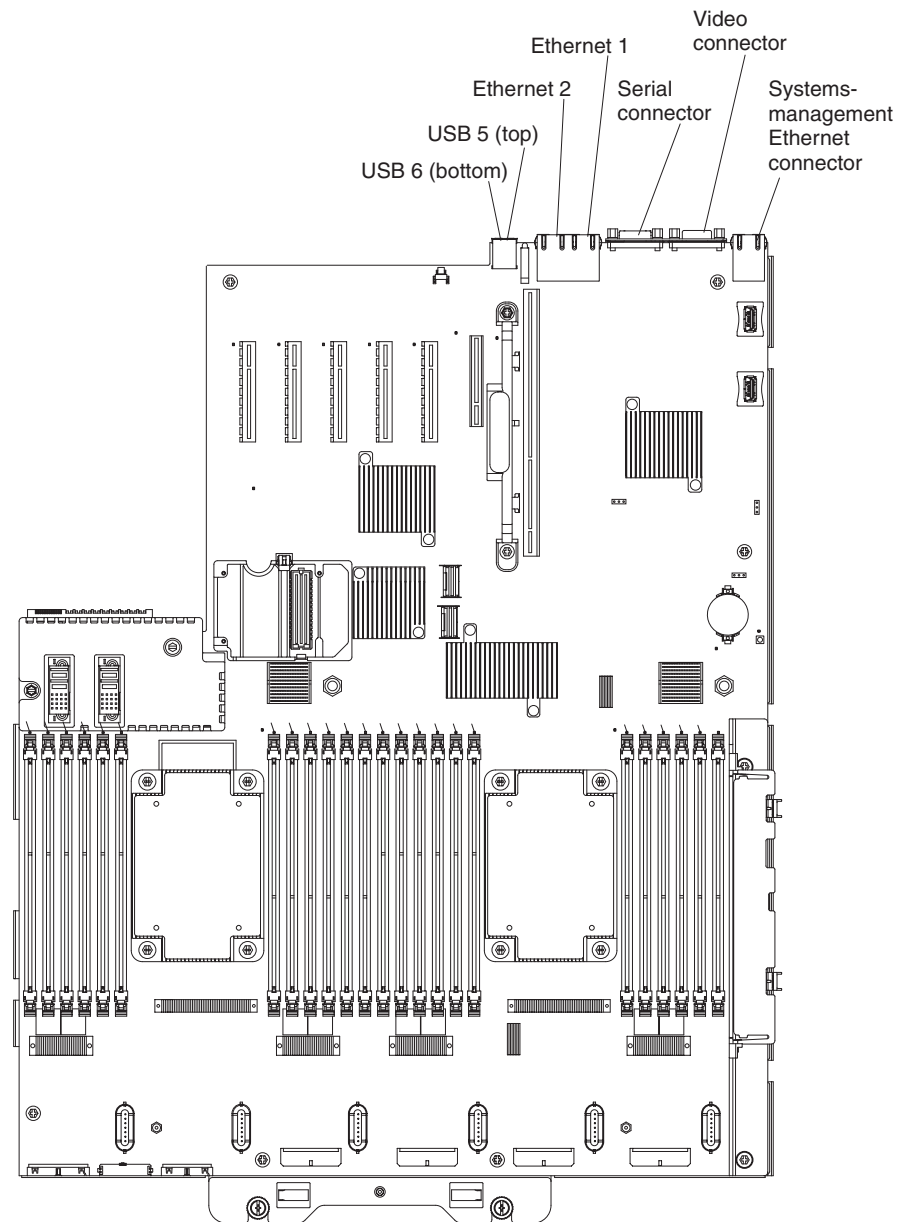
System-board internal connectors

The following illustration shows the internal connectors on the system board.



System-board external connectors

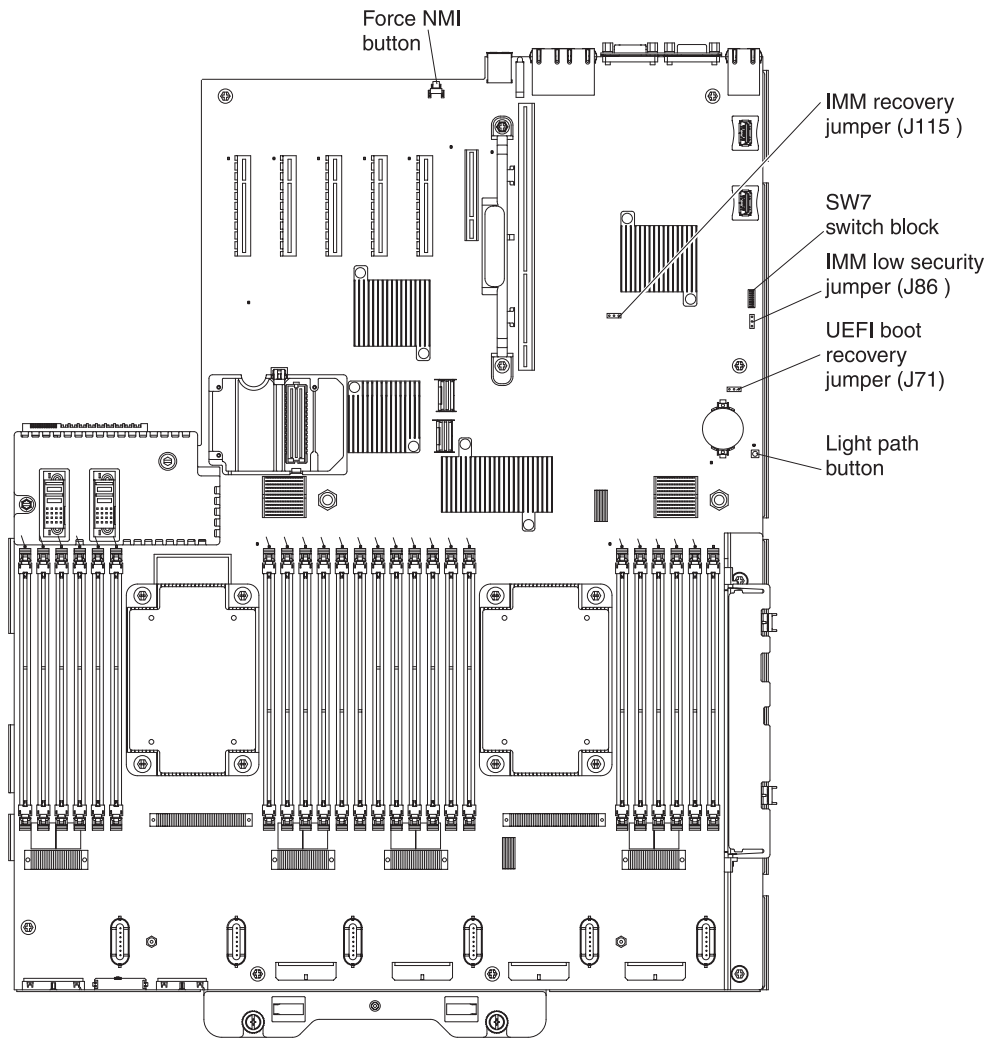
The following illustration shows the external input/output connectors on the system board.



System-board switches, jumpers, and buttons

The following illustration shows the location of the switches, jumpers, and buttons on the server.

Note: If there is a clear protective sticker on the top of the switch block, you must remove and discard it to access the switch.



The following table describes the jumpers on the system board.

Table 2. System-board jumpers

Jumper number	Jumper name	Jumper setting
J71	UEFI boot recovery jumper	<ul style="list-style-type: none"> Pins 1 and 2: (default) Loads the primary UEFI firmware ROM page. Pins 2 and 3: Loads the secondary (backup) UEFI firmware ROM page.
J86	IMM low security jumper	<ul style="list-style-type: none"> Pins 1 and 2: Removes the security check, allowing unsigned IMM2 firmware. Pins 2 and 3: (default) Allows only signed IMM2 firmware to be flashed.

Table 2. System-board jumpers (continued)

Jumper number	Jumper name	Jumper setting
J115	IMM recovery jumper	<ul style="list-style-type: none"> • Pins 1 and 2: (default) Loads the primary IMM firmware ROM page. • Pins 2 and 3: Loads the secondary (backup) IMM firmware ROM page.
Note: <ol style="list-style-type: none"> 1. If no jumper is present, the server responds as if the pins are set to the default. 2. Changing the position of the UEFI boot recovery jumper from pins 1 and 2 to pins 2 and 3 before the server is turned on alters which flash ROM page is loaded. Do not change the jumper pin position after the server is turned on. This can cause an unpredictable problem. 		

The following table describes the functions of the SW7 switch block on the system board.

Table 3. System-board SW7 switch block descriptions

Switch number	Default position	Description
1	Off	Reserved
2	Off	Clear CMOS memory. When this switch is toggled to On, it clears the data in CMOS memory, which clears the power-on password.
3	Off	Reserved
4	Off	Reserved
5	Off	Reserved
6	Off	<p>Power-on password override. Changing the position of this switch bypasses the power-on password check the next time the server is turned on and starts the Setup utility so that you can change or delete the power-on password. You do not have to move the switch back to the default position after the power-on password is overridden.</p> <p>Changing the position of this switch does not affect the administrator password check if an administrator password is set.</p> <p>See “Passwords” on page 130 for additional information about passwords.</p>
7	Off	Reserved
8	Off	Reserved

Important:

1. Before you change any switch settings or move any jumpers, turn off the server; then, disconnect all power cords and external cables. Review the information in “Safety” on page vii, “Installation guidelines” on page 33, “Handling static-sensitive devices” on page 35, and “Turning off the server” on page 21.
2. Any system-board switch or jumper blocks that are not shown in the illustrations in this document are reserved.

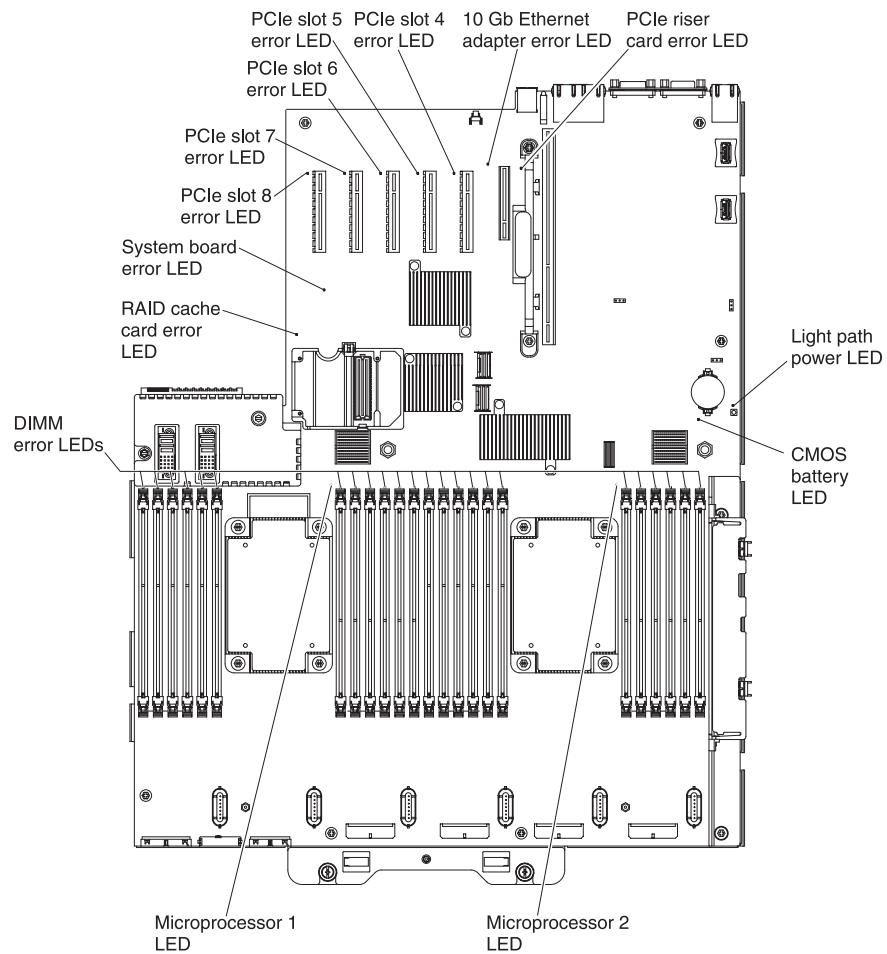
The following table describes the functions of the buttons on the system board:

Table 4. Buttons on the server

Button name	Function
Light path button	Press this button to light the LEDs on the system board when the power source has been removed from the server.
Force NMI button	This button is on the rear of the server. Press this button to force a nonmaskable interrupt to the microprocessor. You might have to use a pen or the end of a straightened paper clip to press the button. You can also use it to force a blue-screen memory dump (use this button only when you are directed to do so by IBM Support).

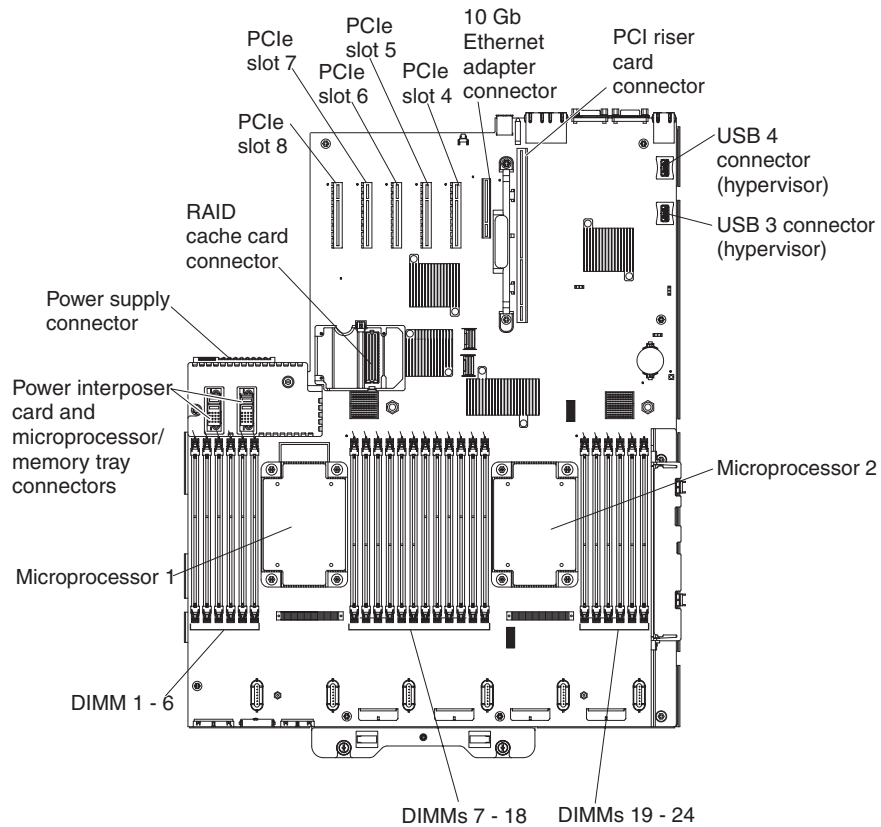
System-board LEDs

The following illustration shows the light-emitting diodes (LEDs) on the system board.



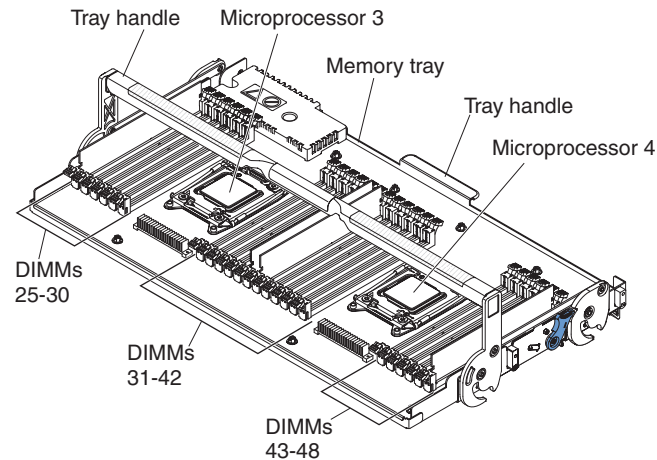
System-board optional-device connectors

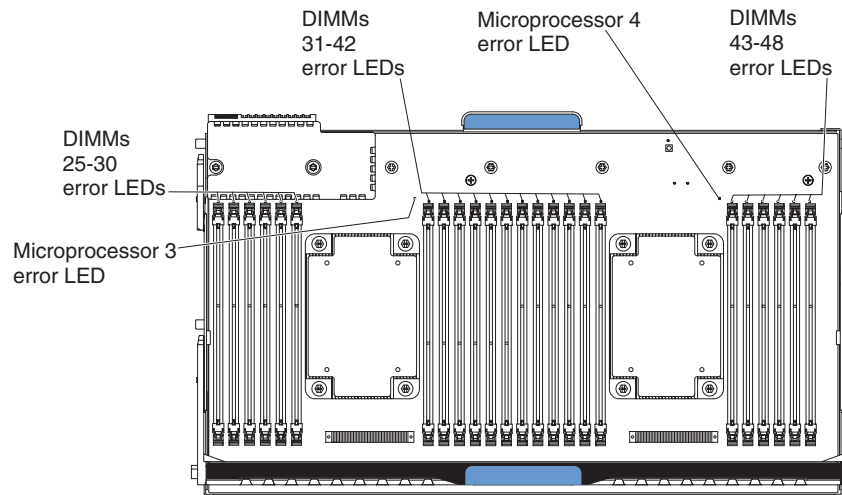
The following illustration shows the connectors on the system board for the optional devices.



Optional microprocessor and memory expansion tray

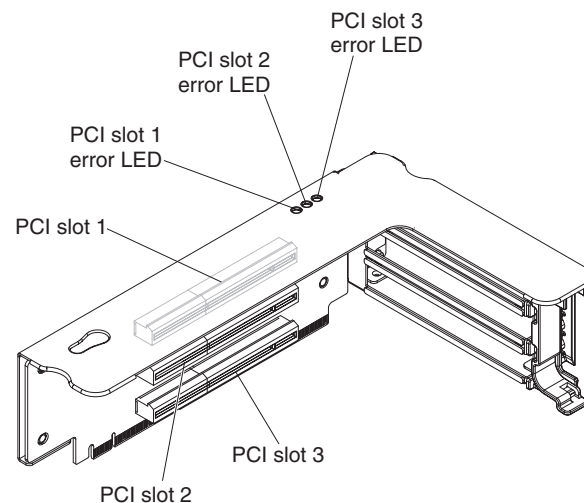
The following illustration shows the connectors and LEDs on the optional microprocessor and memory expansion tray.





PCIe riser card

The following illustration shows the connectors and LEDs on the optional PCIe riser card:



Installation guidelines

Attention: Static electricity that is released to internal server components when the server is powered on might cause the system to halt, which might result in the loss of data. To avoid this potential problem, use an electrostatic-discharge wrist strap and plug it into the Electrostatic-discharge connector on the front of the server (near the video connector) or other grounding system when you remove or install a hot-swap device.

Before you install optional devices, read the following information:

- Read the safety information that begins on page “Safety” on page vii and the guidelines in “Handling static-sensitive devices” on page 35. This information will help you work safely.
- Make sure that the devices that you are installing are supported. For a list of supported optional devices for the server see <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/>.

- When you install your new server, take the opportunity to download and apply the most recent firmware updates. This step will help to ensure that any known issues are addressed and that your server is ready to function at maximum levels of performance. To download firmware updates for your server, go to <http://www.ibm.com/support/fixcentral/>.

Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

For additional information about tools for updating, managing, and deploying firmware, see the ToolsCenter for System x and BladeCenter at <http://publib.boulder.ibm.com/infocenter/toolsctr/v1r0/index.jsp>.

- Before you install optional hardware, make sure that the server is working correctly. Start the server, and make sure that the operating system starts, if an operating system is installed, or that a 19990305 error code is displayed, indicating that an operating system was not found but the server is otherwise working correctly. If the server is not working correctly, see “Running the DSA Preboot diagnostic programs” on page 164 for information about how to run diagnostics.
- Observe good housekeeping in the area where you are working. Place removed covers and other parts in a safe place.
- Do not attempt to lift an object that you think is too heavy for you. If you have to lift a heavy object, observe the following precautions:
 - Make sure that you can stand safely without slipping.
 - Distribute the weight of the object equally between your feet.
 - Use a slow lifting force. Never move suddenly or twist when you lift a heavy object.
 - To avoid straining the muscles in your back, lift by standing or by pushing up with your leg muscles.
- Make sure that you have an adequate number of properly grounded electrical outlets for the server, monitor, and other devices.
- Back up all important data before you make changes to disk drives.
- Have a small flat-blade screwdriver available.
- To view the error LEDs on the system board and internal components, leave the server connected to power.
- You do not have to turn off the server to install or replace hot-swap power supplies, hot-swap fans, or hot-plug Universal Serial Bus (USB) devices. However, you must turn off the server before you perform any steps that involve removing or installing adapter cables and you must disconnect the power source from the server before you perform any steps that involve removing or installing a riser card.
- Blue on a component indicates touch points, where you can grip the component to remove it from or install it in the server, open or close a latch, and so on.
- Orange on a component or an orange label on or near a component indicates that the component can be hot-swapped, which means that if the server and operating system support hot-swap capability, you can remove or install the component while the server is running. (Orange can also indicate touch points on hot-swap components.) See the instructions for removing or installing a specific hot-swap component for any additional procedures that you might have to perform before you remove or install the component.
- When you are finished working on the server, reinstall all safety shields, guards, labels, and ground wires.

System reliability guidelines

To help ensure proper system cooling and system reliability, make sure that the following requirements are met:

- Each of the drive bays has a drive or a filler panel and electromagnetic compatibility (EMC) shield installed in it.
- Each of the power-supply bays has a power supply or a filler installed in it.
- There is adequate space around the server to allow the server cooling system to work properly. Leave approximately 50 mm (2.0 in.) of open space around the front and rear of the server. Do not place objects in front of the fans. For proper cooling and airflow, replace the server cover before you turn on the server.
- You have followed the cabling instructions that come with optional adapters.
- You have replaced a failed fan within 48 hours.
- You have replaced a hot-swap fan within 30 seconds of removal.
- You have replaced a hot-swap drive within 2 minutes of removal.
- You have replaced a failed hot-swap power supply within 2 minutes of removal.
- You do not operate the server without the air baffles installed. Operating the server without the air baffles might cause the device to overheat.

Handling static-sensitive devices

Attention: Static electricity can damage the server and other electronic devices. To avoid damage, keep static-sensitive devices in their static-protective packages until you are ready to install them.

To reduce the possibility of damage from electrostatic discharge, observe the following precautions:

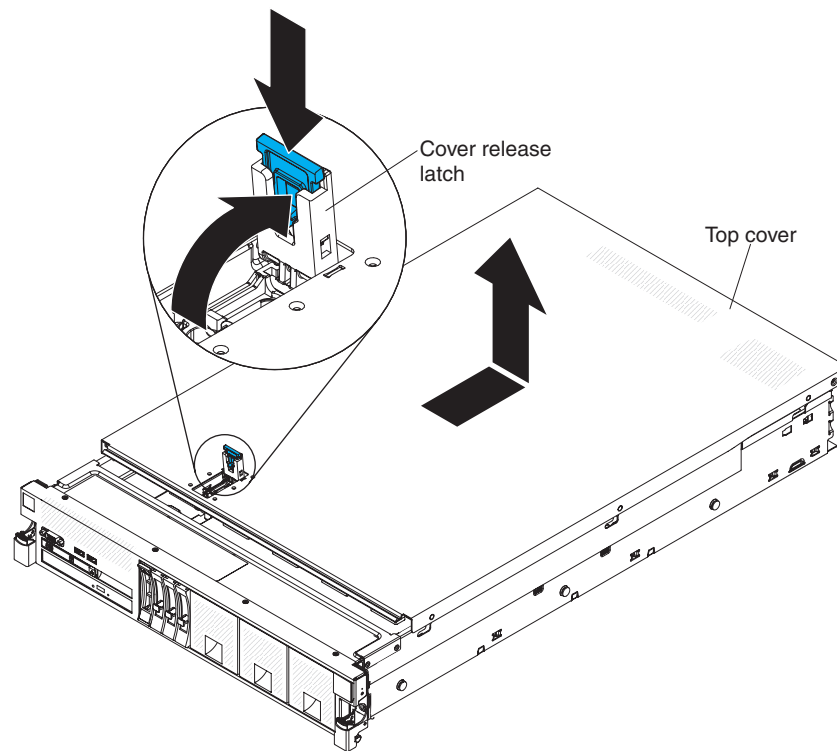
- Limit your movement. Movement can cause static electricity to build up around you.
- Handle the device carefully, holding it by its edges or its frame.
- Do not touch solder joints, pins, or exposed circuitry.
- Do not leave the device where others can handle and damage it.
- While the device is still in its static-protective package, touch it to an unpainted metal surface on the outside of the server for at least 2 seconds. This drains static electricity from the package and from your body.
- Remove the device from its package and install it directly into the server without setting down the device. If it is necessary to set down the device, put it back into its static-protective package. Do not place the device on the server cover or on a metal surface.
- Take additional care when you handle devices during cold weather. Heating reduces indoor humidity and increases static electricity.

Removing the server top cover

Before you install optional hardware devices, make sure that the server is working correctly. Start the server and make sure that the operating system starts (if an operating system is installed) or that a 19990305 error code is displayed, indicating that an operating system was not found but the server is otherwise working correctly. If the server is not working correctly, see Chapter 4, “Troubleshooting,” on page 143.

To remove the server top cover, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. If the server has been installed in a rack, slide the server out from the rack enclosure.
4. Press in on the blue tab on the cover-release latch and lift the cover-release latch up (the cover slides to the rear). Lift the cover off the server and set it aside.

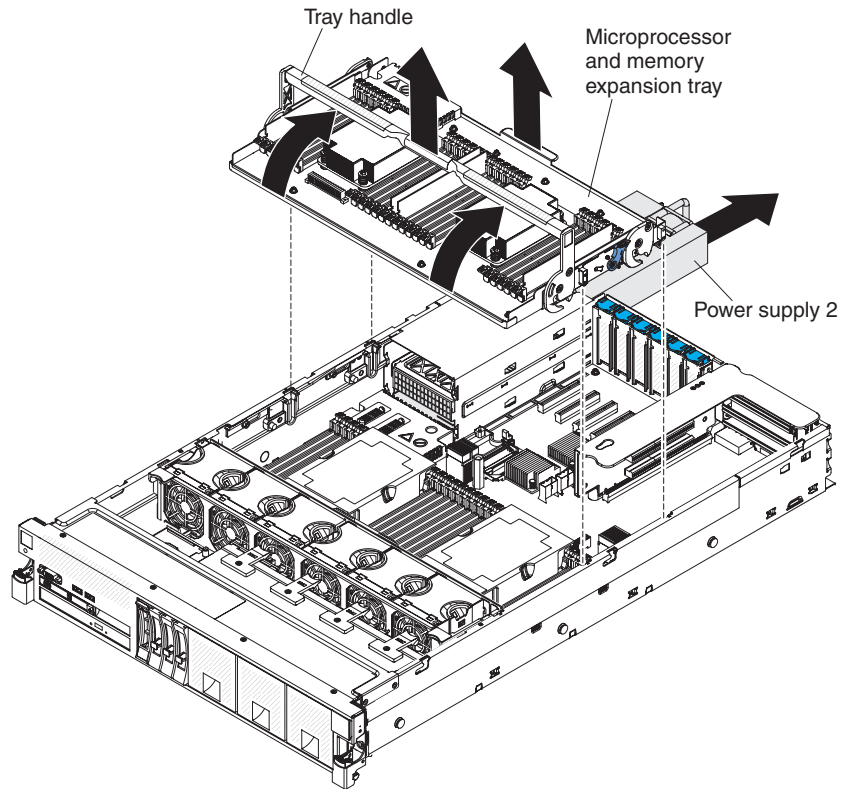


If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Removing the microprocessor and memory expansion tray assembly

To remove the microprocessor and memory expansion tray, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. If the server has been installed in a rack, slide the server out from the rack enclosure.
4. Remove the top cover (see “Removing the server top cover” on page 35).
5. If power supply 2 is installed, slide it out of the power-supply bay slightly.
6. Grasp the front handle tray by the blue touch points and rotate the handle all the way up to disengage the tray from the connectors on the system board.



7. Grasp the tray by both handles, lift it from the server, and set it on a flat surface to avoid damaging the connector pins on the bottom of the tray.

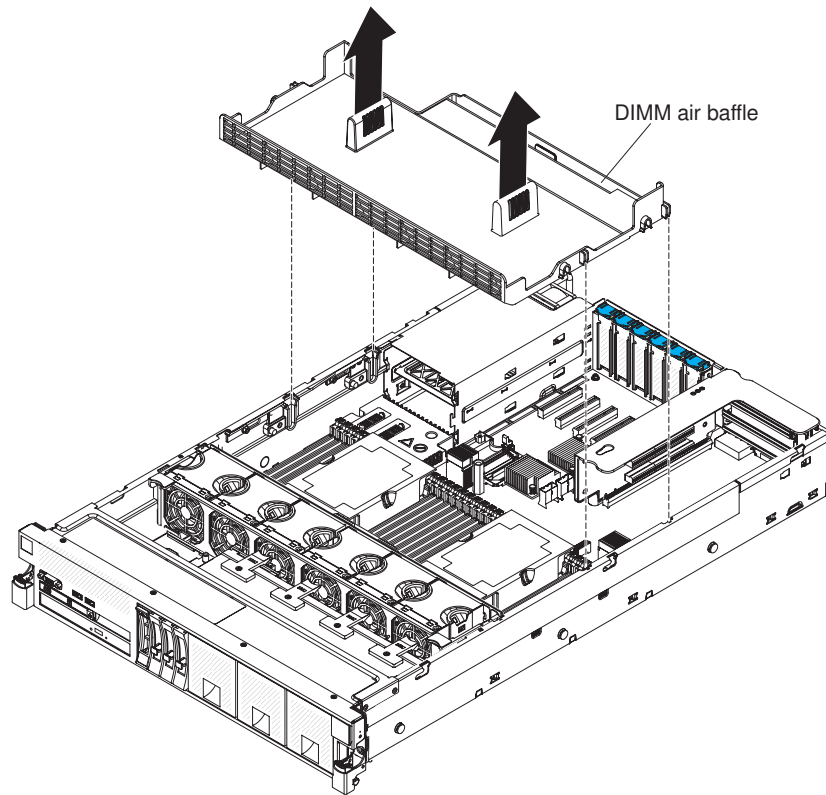
If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Removing the DIMM air baffle

To remove the DIMM air baffle, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. Lift the DIMM air baffle from the server and set it aside.

Attention: For proper cooling and airflow, replace the air baffle before you turn on the server. Operating the server with the air baffle removed might damage server components.



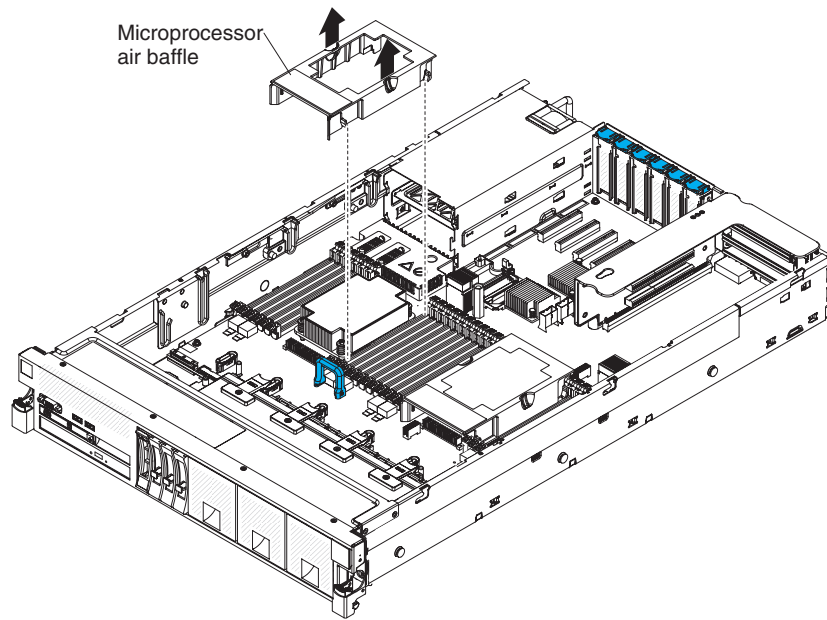
If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Removing the microprocessor air baffle

To remove the microprocessor air baffle, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. Grasp the baffle by the grip points, lift it all the way out of the slots, and set the baffle aside.

Note: A microprocessor air baffle must be installed whenever the two DIMM connectors closest to the microprocessor (on the left and the right) are empty. For example, when DIMM connectors 6 and 7 on the system board are empty, the microprocessor air baffle must be installed on microprocessor 1. This is applicable for all microprocessors.



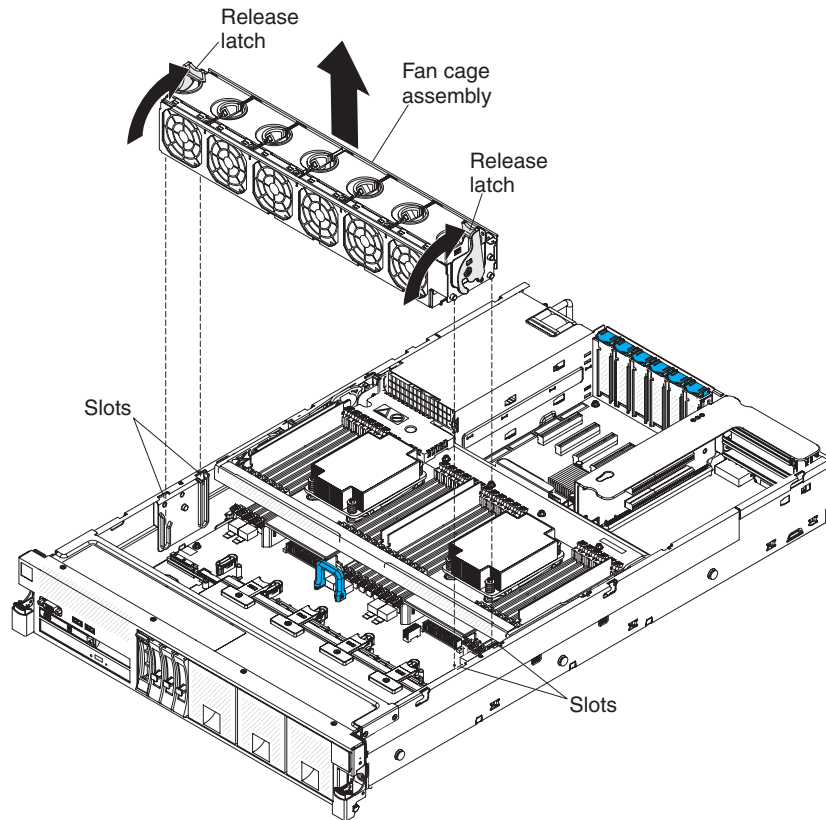
Attention: For proper cooling and airflow, replace the air baffle before you turn on the server. Operating the server with the air baffle removed might damage server components.

If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Removing the fan cage assembly

To remove the fan cage assembly, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. If the server is in a rack, slide the server out of the rack.
4. Remove the top cover (see “Removing the server top cover” on page 35).
5. Lift the fan cage assembly release latches and rotate the release latches up until the assembly disengages from the chassis; then, lift the fan cage assembly out of the server.



If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Installing a memory module

The following notes describe the types of dual inline memory modules (DIMMs) that the server supports and other information that you must consider when you install DIMMs (see “System-board optional-device connectors” on page 31 for the location of the DIMM connectors):

- Confirm that the server supports the DIMM that you are installing (see <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/>).
- When you install or remove DIMMs, the server configuration information changes. When you restart the server, the system displays a message that indicates that the memory configuration has changed. You can use the Setup utility to view the server configuration information, see “Using the Setup utility” on page 125 for more information.
- The server supports only industry-standard double-data-rate 3 (DDR3), PC3-12800R 1600 MHz, PC3L-10600R-999 1333 MHz or PC3L-10600 1333 MHz Load Reduced (LR), single-rank, dual-rank, or quad-rank, registered, synchronous dynamic random-access memory (SDRAM) dual inline memory modules (DIMMs) with error correcting code (ECC).

- The specifications of a DDR3 DIMM are on a label on the DIMM, in the following format.

gGB eRxf-PC3-wwwwm-a-b-c-d

where:

- *gGB* is the total capacity of the DIMM (for example, 1GB, 2GB, or 4GB)
- *eR* is the number of ranks

- 1R = single-rank
- 2R = dual-rank
- 4R = quad-rank
- *xf* is the device organization or bit width (for example, x4, x8, or x16)
 - 4 = x4 organization (4 DQ lines per SDRAM)
 - 8 = x8 organization
 - 16 = x16 organization
- *www* is the DIMM bandwidth, in MBps
 - 6400 = 6.40 GBps (PC3-800 SDRAMs, 8-byte primary data bus)
 - 8500 = 8.53 GBps (PC3-1066 SDRAMs, 8-byte primary data bus)
 - 10600 = 10.66 GBps (PC3-1333 SDRAMs, 8-byte primary data bus)
 - 12800 = 12.80 GBps PC3-1600 SDRAMs, 8-byte primary data bus)
- *m* is the DIMM type
 - E = Unbuffered DIMM (UDIMM) with ECC (x72-bit module data bus)
 - R = Registered DIMM (RDIMM)
 - U = Unbuffered DIMM with no ECC (x64-bit primary data bus)
- *a* is the CAS latency, in clocks at maximum operating frequency
- *b* is the JEDEC SPD Revision Encoding and Additions level
- *c* is the reference design file for the design of the DIMM
- *d* is the revision number of the reference design of the DIMM
- The server supports 1.35-volt (low-voltage) registered DIMMs and 1.5-volt (standard voltage) registered DIMMs as follows:
 - Supported DIMMs with speeds of 1333 MHz or less support both 1.35 V and 1.5 V operation, depending on the configuration settings in the Setup utility.
 - Supported DIMMs with speeds of 1600 MHz do not support 1.35 V operation. Only 1.5 V operation is supported.
- Single-device data correction (SDDC) support is available only when 16 GB or 32 GB x4 DRAM technology DIMMs are installed in the server.
- The following table provides information about the maximum amount of memory that the server can support when you fully populate the server and the optional microprocessor and memory expansion tray by using the supported DIMMs.

Table 5. The maximum amount of memory that the server can support

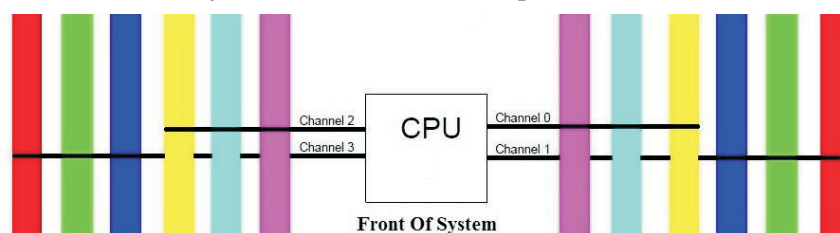
Number of DIMM connectors	Maximum memory
24 DIMMs on system board	Up to 768 GB
24 DIMMs on the optional microprocessor and memory expansion tray	Up to 768 GB
	Total = 1.5 TB of memory
Note: The server can support a maximum 1.5 TB of system memory when the server is fully populated with 32 GB DIMMs and the optional microprocessor and memory expansion tray is installed and fully populated with 32 GB DIMMs.	

- The DIMM options that are available for the server are 4 GB, 8 GB, 16 GB, 32 GB.
- The server system board supports a minimum of 4 GB and a maximum of 768 GB of system memory. However, the server can support an additional 768 GB of

memory when an optional microprocessor and memory expansion tray is installed in the server, for a total of 1.5 TB of system memory, depending on the model.

Note: The amount of usable memory is reduced, depending on the system configuration. A certain amount of memory must be reserved for system resources. To view the total amount of installed memory and the amount of configured memory, run the Setup utility. For additional information, see “Configuring the server” on page 122.

- The server system board provides four memory channels for each microprocessor, and each memory channel supports up to three DIMMs. The optional microprocessor and memory expansion tray also provides four memory channels that support up to three DIMMs per channel. The following illustration shows the memory channels for each microprocessor.



The following table lists the DIMM connectors on each memory channel for the microprocessors on the system board and the optional expansion tray.

Table 6. DIMM connectors on each memory channel for the microprocessors on the system board and the optional microprocessor and memory expansion tray

Memory channel	DIMM connectors associated with CPU 1 on the system board	DIMM connectors associated with CPU 2 on the system board	DIMM connectors associated with CPU 3 on the microprocessor and memory expansion tray	DIMM connectors associated with CPU 4 on the microprocessor and memory expansion tray
Channel 0	7, 8, 9	19, 20, 21	31, 32, 33	43, 44, 45
Channel 1	10, 11, 12	22, 23, 24	34, 35, 36	46, 47, 48
Channel 2	4, 5, 6	16, 17, 18	28, 29, 30	40, 41, 42
Channel 3	1, 2, 3	13, 14, 15	25, 26, 27	37, 38, 39

- The following table shows the DIMM connectors on the system board and the microprocessor and memory expansion tray that are associated with each microprocessor.

Table 7. DIMM connectors associated with each microprocessor

Microprocessor	Location	DIMM connectors associated with the microprocessor
Microprocessor 1	System board	1 through 12
Microprocessor 2	System board	13 through 24
Microprocessor 3	Microprocessor and memory expansion tray	25 through 36
Microprocessor 4	Microprocessor and memory expansion tray	37 through 48

- When you replace a DIMM, the server provides automatic DIMM enablement capability without requiring you to use the Setup utility to enable the new DIMM manually.
- The maximum operating speed of the server is determined by the slowest DIMM in the server.
- DIMMs do not have to be installed in pairs, except in memory-mirroring mode.
- A minimum of one DIMM must be installed for each microprocessor. For example, you must install a minimum of two DIMMs if the server has two microprocessors (one for each microprocessor). If you install four microprocessors in the server, you must install a minimum of four DIMMs (one DIMM for each microprocessor). For more information about the DIMM population sequence, see Table 8, Table 9 on page 44, and Table 10 on page 45.

Note:

- When one DIMM per microprocessor is installed, system performance can be slow.
- To run VMware, one DIMM per microprocessor must be installed. If a DIMM is not installed for each microprocessor, the server will not be able to boot VMware.
- For best performance, install DIMMs evenly across all four memory channels for each microprocessor.
- The server supports non-mirroring mode, memory mirroring mode, and memory sparing mode. For more information and the DIMM population for non-mirroring mode, see “Non-mirroring (independent mode).” For more information and the DIMM population sequence for memory mirroring, see “Memory mirroring.” For more information and the DIMM population sequence for memory sparing, see “Memory sparing” on page 45.

Non-mirroring (independent mode)

When you use non-mirroring mode, follow the DIMM population sequence as indicated in the following table..

Note: When you install an optional microprocessor and memory expansion tray in the server, microprocessors 3 and 4 must be installed as a pair. The server does not support a configuration of three microprocessors.

Table 8. DIMM population sequence for non-mirroring mode (independent mode)

Number of installed microprocessors	DIMM connector population sequence on the system board	DIMM connector population sequence on the microprocessor and memory expansion tray
1	1, 12, 4, 9, 2, 11, 5, 8, 3, 10, 6, 7	
2	1, 13, 12, 24, 4, 16, 9, 21, 2, 14, 11, 23, 5, 17, 8, 20, 3, 15, 10, 22, 6, 18, 7, 19	
4	1, 13, 12, 24, 4, 16, 9, 21, 2, 14, 11, 23, 5, 17, 8, 20, 3, 15, 10, 22, 6, 18, 7, 19	25, 37, 36, 48, 28, 40, 33, 45, 26, 38, 35, 47, 29, 41, 32, 44, 27, 39, 34, 46, 30, 42, 31, 43

Memory mirroring

Memory-mirroring replicates and stores data on DIMMs across two or four channels simultaneously. If a failure occurs, the memory controller switches from the DIMMs on the primary channel to the DIMMs on the backup channel. To

enable memory mirroring through the Setup utility, select **System Settings** → **Memory** → **Memory Mode**. For more information, see “Using the Setup utility” on page 125.

When you use memory mirroring mode, consider the following information:

- The server supports single-socket memory mirroring. Memory channel 0 mirrors channel 1, and memory channel 2 mirrors channel 3. This mirroring provides redundancy in memory but reduces the total memory capacity in half.
- DIMMs must be installed in pairs for each microprocessor when using the memory mirroring feature.
- The DIMM population must be identical for memory channel 0 and memory channel 1, and identical for memory channel 2 and memory channel 3.
- Memory mirroring reduces the maximum available memory by half of the installed memory. For example, if the server has 64 GB of installed memory, only 32 GB of addressable memory is available when memory mirroring is enabled.
- The following table lists the DIMM installation sequence for memory-mirroring mode.

Note: The server does not support a configuration of three microprocessors. The server supports one, two, or four microprocessors only.

Table 9. DIMM population sequence for memory mirroring mode

DIMMs	Number of microprocessors	DIMM connector population sequence on the system board	DIMM connector population sequence on the optional microprocessor and memory expansion tray
<i>One microprocessor</i>			
1st pair	1	1, 4	
2nd pair	1	9, 12	
3rd pair	1	2, 5	
4th pair	1	8, 11	
5th pair	1	3, 6	
6th pair	1	7, 10	
<i>Two microprocessors</i>			
1st set	2	1, 4, 13, 16	
2nd set	2	9, 12, 21, 24	
3rd set	2	2, 5, 14, 17	
4th set	2	8, 11, 20, 23	
5th set	2	3, 6, 15, 18	
6th set	2	7, 10, 19, 22	
<i>Four microprocessors</i>			
1st set	4	1, 4, 13, 16	25, 28, 37, 40
2nd set	4	9, 12, 21, 24	33, 36, 45, 48
3rd set	4	2, 5, 14, 17	26, 29, 38, 41
4th set	4	8, 11, 20, 23	32, 35, 44, 47

Table 9. DIMM population sequence for memory mirroring mode (continued)

DIMMs	Number of microprocessors	DIMM connector population sequence on the system board	DIMM connector population sequence on the optional microprocessor and memory expansion tray
<i>One microprocessor</i>			
5th set	4	3, 6, 15, 18	27, 30, 39, 42
6th set	4	7, 10, 19, 22	31, 34, 43, 46

Memory sparing

The server supports memory sparing. Memory sparing reserves memory capacity for failover in the event of a DIMM failure, and the reserved capacity is subtracted from the total available memory. Memory sparing provides less redundancy than memory mirroring does. If a predetermined threshold of correctable errors is reached, the contents of the failing DIMM are copied to the spare memory, and the failing DIMM or rank is disabled. To enable memory sparing through the Setup utility, select **System Settings** → **Memory** → **Memory Mode**

When you use memory sparing mode, consider the following information:

- When single-rank or dual-rank DIMMs are used, at least three DIMMs must be installed to support memory sparing.
- Each memory channel supports three DIMMs. The third DIMM in each channel is the sparing DIMM for all of the DIMMs in the channel.
- When quad-rank DIMMs are used, one of the ranks in the DIMM itself is used for sparing.
- The following table shows the DIMM population sequence for memory-sparing mode.

Note: The server does not support a configuration of three microprocessors. The server supports one, two, or four microprocessors only.

Table 10. DIMM population sequence for memory sparing mode

DIMMs	Number of microprocessors	DIMM connector population sequence on the system board	DIMM connector population sequence on the optional microprocessor and memory expansion tray
<i>One microprocessor</i>			
1st set	1	1, 2, 3	
2nd set	1	10, 11, 12	
3rd set	1	4, 5, 6	
4th set	1	7, 8, 9	
<i>Two microprocessors</i>			
1st set	2	1, 2, 3, 13, 14, 15	
2nd set	2	10, 11, 12, 22, 23, 24	

Table 10. DIMM population sequence for memory sparing mode (continued)

DIMMs	Number of microprocessors	DIMM connector population sequence on the system board	DIMM connector population sequence on the optional microprocessor and memory expansion tray
<i>One microprocessor</i>			
3rd set	2	4, 5, 6, 16, 17, 18	
4th set	2	7, 8, 9, 19, 20, 21	
<i>Four microprocessors</i>			
1st set	4	1, 2, 3, 13, 14, 15	25, 26, 27, 37, 38, 39
2nd set	4	10, 11, 12, 22, 23, 24	34, 35, 36, 46, 47, 48
3rd set	4	4, 5, 6, 16, 17, 18	28, 29, 30, 40, 41, 42
4th set	4	7, 8, 9, 19, 20, 21	31, 32, 33, 43, 44, 45

- The server supports a maximum of 24 DIMMs (single-rank, dual-rank, or quad-rank) on the base system board. If you mix single-rank, dual-rank, or quad-rank DIMMs in the server, quad-rank DIMMs must be installed first.

Note: To determine the type of a DIMM, see the label on the DIMM. The information on the label is in the format xxxxx nRxxx PC3-xxxxx-xx-xx-xxx. The numeral in the sixth numerical position indicates whether the DIMM is single-rank (n=1) or dual-rank (n=2).

- The following tables list the supported combinations of single-rank, dual-rank, and quad-rank standard registered DIMMs (RDIMMs) and load-reduced DIMMs (LR-DIMMs) that you can install in the server.

Note: In the following table, the location of the DIMMs in the memory channels are defined as follows:

Near DIMM: The DIMM in the memory channel that is the closest to the microprocessor.

Middle DIMM: The middle DIMM in the memory channel.

Far DIMM: The DIMM in the memory channel that is the farthest from the microprocessor.

The following table lists the supported combinations of ranked DIMMs (RDIMMs) that you can install in the server.

Note: The server does not support the mixing of RDIMMs and LR-DIMMs in the same server.

Table 11. Supported combinations of ranked RDIMMs per memory channel

Configuration	DIMM 1 (far DIMM)	DIMM 2 (middle DIMM)	DIMM 3 (near DIMM)
1	Single-rank	Empty	Empty
2	Dual-rank	Empty	Empty
3	Quad-rank	Empty	Empty
4	Single-rank	Single-rank	Empty
5	Dual-rank	Single-rank	Empty

Table 11. Supported combinations of ranked RDIMMs per memory channel (continued)

Configuration	DIMM 1 (far DIMM)	DIMM 2 (middle DIMM)	DIMM 3 (near DIMM)
6	Dual-rank	Dual-rank	Empty
7	Quad-rank	Single-rank	Empty
8	Quad-rank	Dual-rank	Empty
9	Quad-rank	Quad-rank	Empty
10	Single-rank	Single-rank	Single-rank
11	Dual-rank	Single-rank	Single-rank
12	Dual-rank	Dual-rank	Single-rank
13	Dual-rank	Dual-rank	Dual-rank

The following table lists the supported combinations of ranked load-reduced DIMMs (LR-DIMMs) that you can install in the server.

Note: The server does not support the mixing of RDIMMs and LR-DIMMs in the same server.

Table 12. Supported combinations of ranked LR-DIMMs per memory channel

Configuration	DIMM 1 (far DIMM)	DIMM 2 (middle DIMM)	DIMM 3 (near DIMM)
1	Quad-rank	Empty	Empty
2	Quad-rank	Quad-rank	Empty
3	Quad-rank	Quad-rank	Quad-rank

- The following table lists the memory speed based on the type of ranked DIMM and the voltage at which the DIMM runs.

Table 13. Memory speeds and configurations based on ranked DIMM type and voltage

DIMM rank, type, and technology	DIMM capacity	1 DIMM per channel		2 DIMMs per channel		3 DIMMs per channel	
		1.35 V	1.50 V	1.35 V	1.50 V	1.35 V	1.50 V
Single-rank x4 RDIMM - 2 Gb (1333 MHz)	4 GB	1333	1333	1333	1333	1066	1066
Single-rank x4 RDIMM - 2 Gb (1600 MHz)	4 GB		1600		1600		1066
Dual-rank x4 RDIMM - 2 Gb (1333 MHz)	8 GB	1333	1333	1333	1333	1066	1333
Dual-rank x4 RDIMM - 2 Gb (1600 MHz)	8 GB		1600		1600		1333

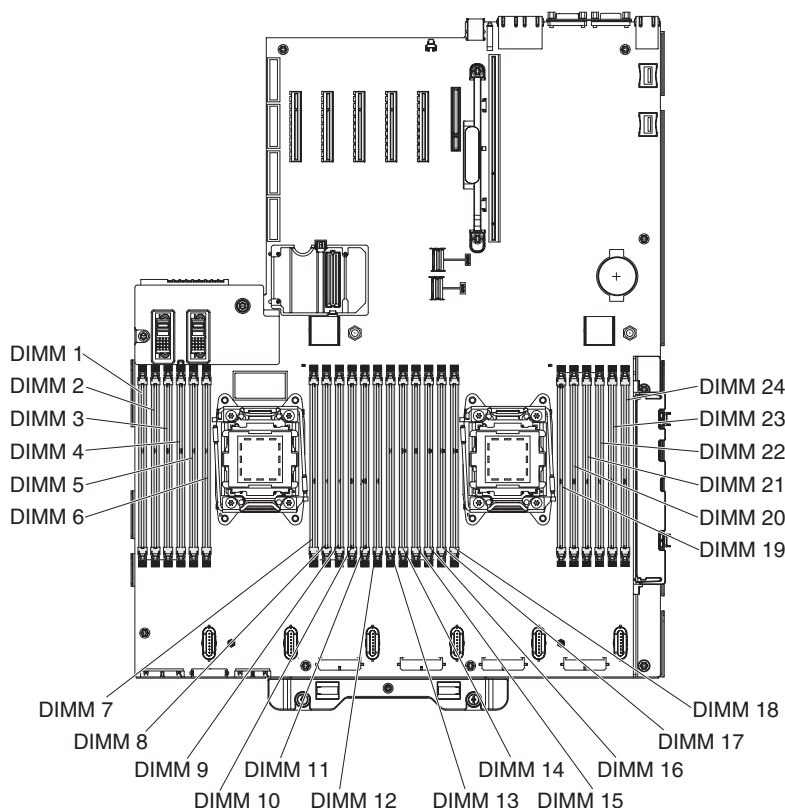
Table 13. Memory speeds and configurations based on ranked DIMM type and voltage (continued)

DIMM rank, type, and technology	DIMM capacity	1 DIMM per channel		2 DIMMs per channel		3 DIMMs per channel	
Quad-rank x4 LRDIMM - 2 Gb (1333 MHz)	16 GB	1333	1333	1333	1333	1333	1333
Quad-rank x4 LRDIMM - 4 Gb (1333 MHz)	32 GB	1333	1333	1333	1333	1333	1333

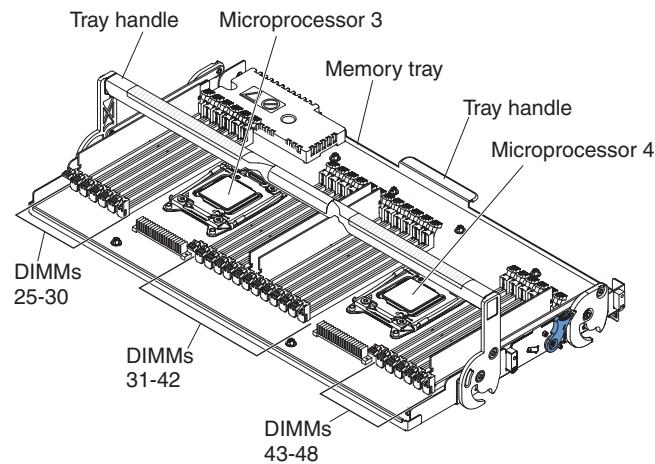
DIMM installation instructions

Attention: Static electricity that is released to internal server components when the server is powered on might cause the server to stop, which might result in the loss of data. To avoid this potential problem, always use an electrostatic-discharge wrist strap and plug it into the electrostatic-discharge connector on the front of the server (see “Front view” on page 15 for the location of this connector) or other grounding system when you work inside the server with the power on.

The following illustration show the locations of the DIMM connectors on the system board.



The following illustration show the locations of the DIMM connectors on the optional microprocessor and memory expansion tray:

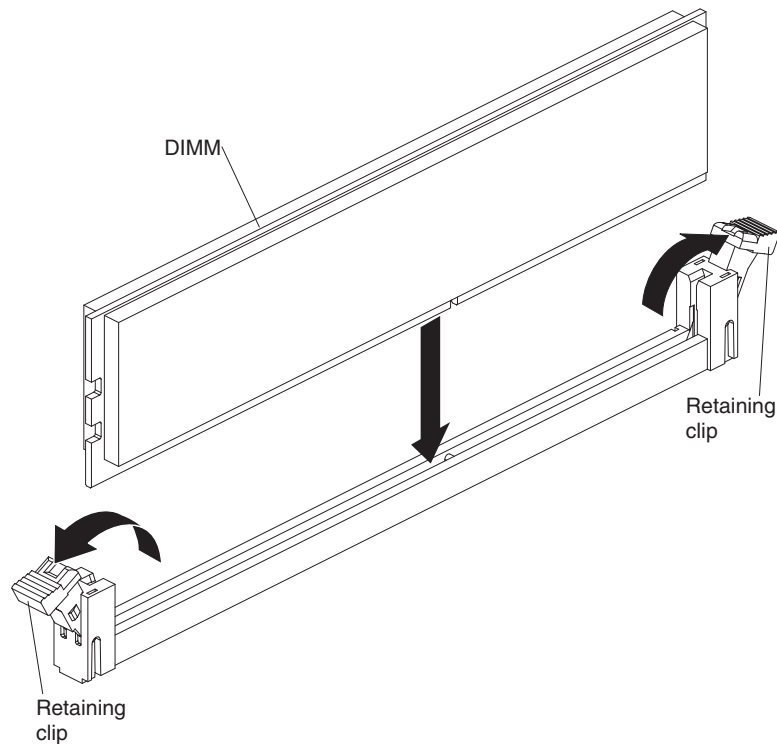


To install a DIMM, complete the following steps.

Note: These instructions apply to installing DIMMs on the base system board or the microprocessor and memory expansion tray.

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. If you are installing DIMMs on the system board, remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.
5. Open the retaining clip on each end of the DIMM connector.

Note: To avoid breaking the retaining clips or damaging the DIMM connectors, open and close the clips gently.



6. Touch the static-protective package that contains the DIMM to any unpainted metal surface on the outside of the server. Then, remove the DIMM from the package.
7. Turn the DIMM so that the DIMM keys align correctly with the connector.
8. Insert the DIMM into the connector by aligning the edges of the DIMM with the slots at the ends of the DIMM connector (see "System-board optional-device connectors" on page 31 for the locations of the DIMM connectors).
9. Firmly press the DIMM straight down into the connector by applying pressure on both ends of the DIMM simultaneously. The retaining clips snap into the locked position when the DIMM is firmly seated in the connector.

Note: If there is a gap between the DIMM and the retaining clips, the DIMM has not been correctly inserted; open the retaining clips, remove the DIMM, and then reinsert it.

If you have other devices to install or remove, do so now. Otherwise, go to "Completing the installation" on page 115.

Installing drives

The following notes describe the type of drives that the server supports and other information that you must consider when you install a drive. For a list of supported drives, see <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/>.

- Locate the documentation that comes with the drive and follow those instructions in addition to the instructions in this chapter.
- The server supports one optional ultra-slim SATA CD-RW/DVD-ROM optical drive.
- The server can support up to sixteen 2.5-inch drives, up to thirty-two 1.8-inch drives, or a combination of both 2.5-inch and 1.8-inch hot-swap drives, using the supported SAS/SATA backplane configurations. The server supports 2.5-inch

hot-swap SAS or hot-swap SATA hard disk drives, 2.5-inch hot-swap SATA solid state drives, and 1.8-inch hot-swap SATA solid state drives (see “Supported SAS/SATA drive backplane configurations” on page 52 for more information).

- You can mix 2.5-inch hot-swap SAS and SATA hard disk drives, 2.5-inch hot-swap SATA solid-state drives, and 1.8-inch hot-swap SATA solid-state drives in the same server as long as you use the same type of drives within the same array.
- When you upgrading drive backplane configurations, you must install all 1.8-inch solid state drive backplanes to the right of all 2.5-inch hard disk drive or 2.5-inch solid state drive backplanes. All 2.5-inch backplanes must be installed to the left of all 1.8-inch backplanes. See “Drive IDs” for drive ID assignment information and “Supported SAS/SATA drive backplane configurations” on page 52 for information about the combination of supported drive backplane configurations.
- The 8x2.5-inch hot-swap drive backplane with controller expander must always be installed in backplane bays 3 and 4. See “Connecting the SAS cables” on page 60 for more information about cabling the SAS cables.
- The electromagnetic interference (EMI) integrity and cooling of the server are protected by having all bays and PCIe slots covered or occupied. When you install a drive, save the EMC shield and filler panel from the bay in the event that you later remove the device.

Drive IDs

The hot-swap-drive ID that is assigned to each drive is printed on the front of the server. The following illustrations show the locations of the IDs of the drives. The ID numbers and the drive bay numbers are the same.

Note:

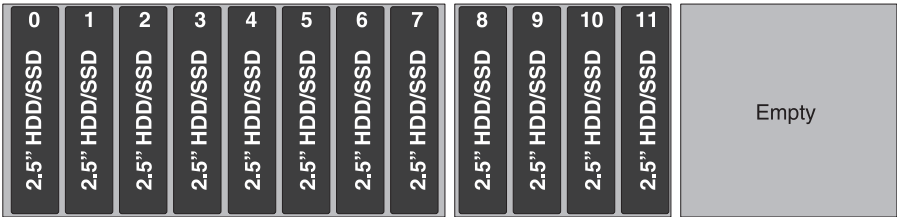
1. The drive bay IDs can vary, depending on the combination of the SAS/SATA backplanes installed in the server.
- 2.
3. When upgrading drive backplane configurations, you must install all 1.8-inch solid-state drive backplanes to the right of all 2.5-inch hard disk drive or 2.5-inch solid-state drive backplanes. All 2.5-inch drive backplanes must be installed to the left of all 1.8-inch drive backplanes.
4. If you install a 8x1.8-inch drive backplane assembly, the drive IDs that are indicated on the server front bezel will no longer be valid. Use the drive ID labels that come with the backplane to renumber the drive IDs on the bezel.
5. When you install a combination of 2.5-inch and 1.8-inch drive backplanes in the same server, the drive bay ID numbering is reset by skipping bay ID numbers based on the number of 2.5-inch drive backplanes that are installed to the left of the 1.8-inch drives backplanes.

For example, if the server has a 4x2.5-inch drive backplane and a 8x1.8-inch backplane configuration, the drive bay IDs of the four drives in the 4x2.5-inch drive backplane are 0 through 3. The drive bay IDs of the eight drives in the 8x1.8-inch drive backplane starts with an ID of 8 through 15. Since the drive bay IDs of the drives in the 4x2.5-inch backplane are 0 through 3, the IDs reset and skip four ID numbers (because the first backplane supports four drives), then the drive IDs in the 8x1.8-inch drive backplane starts with an ID of 8 through 15.

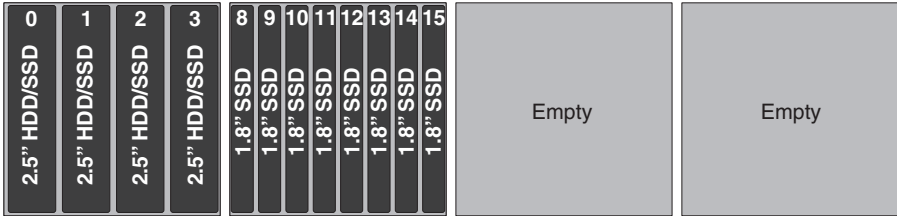
If a 8x2.5inch drive backplane had been installed, instead of the 4x2.5-inch drive backplane, the IDs are reset and skip eight ID numbers, then the drive IDs of the drives in the 8x1.8-inch drive backplane would start at 16 through

23. See the following example illustrations and the illustrations in “Supported SAS/SATA drive backplane configurations” for more information.

In the following illustration, the drive bay IDs are in sequential order because all of the drive backplanes are 2.5-inch drive backplanes.



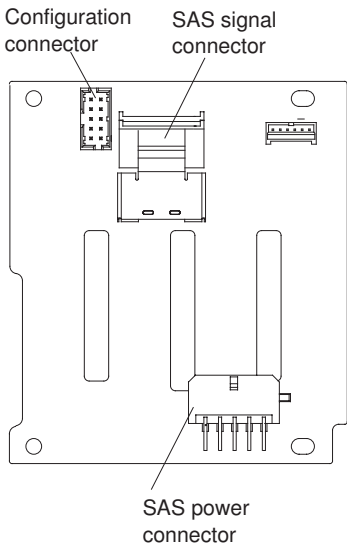
In the following illustration, you have a combination of drive backplanes. This example shows a 2.5-inch drive backplane and a 1.8-inch drive backplane installed in the server. In this instance, the drive bay IDs will require a gap in the bay ID numbering between the drive IDs in the 2.5-inch and 1.8-inch drive backplanes.



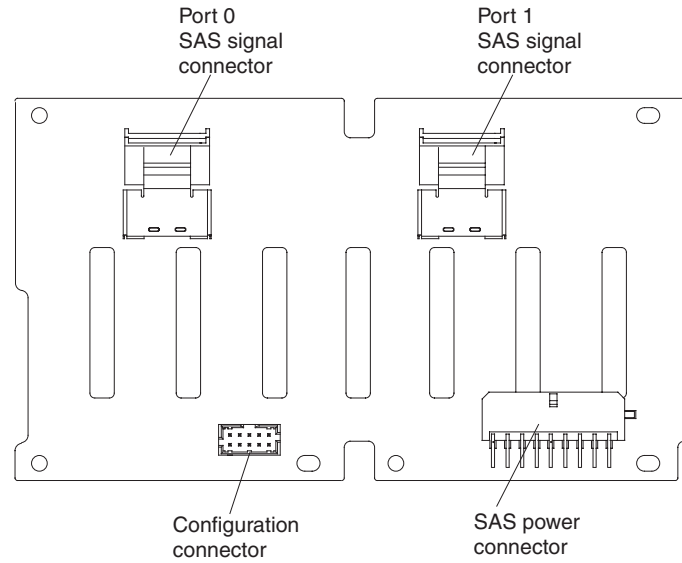
Supported SAS/SATA drive backplane configurations

The following illustrations show the hot-swap drive backplanes that the server supports.

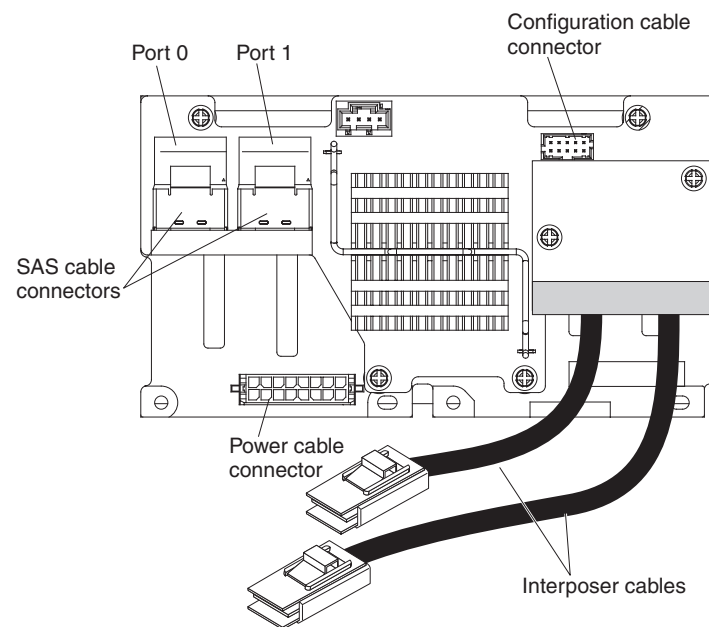
4x2.5-inch drive backplane rear view:



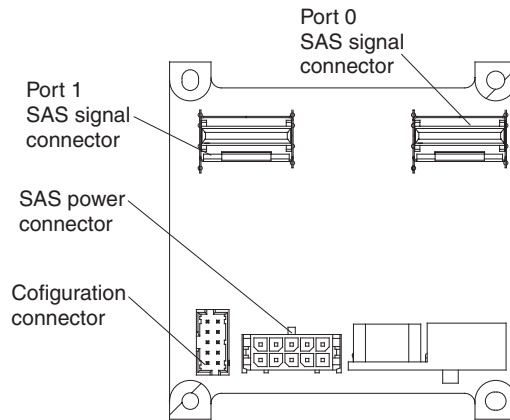
8x2.5-inch drive backplane rear view:



8x2.5-inch drive backplane with controller expander rear view:



8x1.8-inch drive backplane rear view:



You can install a combination of 2.5-inch and 1.8-inch SAS/SATA drive backplanes in the server for the maximum drive capacity. However, any SAS/SATA adapter that you install in the server must be capable of supporting two internal, 4-lane SAS/SATA signal connectors. The following sections list the supported SAS/SATA drive backplane configurations, the number of drives that each configuration supports, and information on connecting the SAS cables.

Note:

1. When you upgrade drive backplane configurations, you must install all 1.8-inch solid state drive backplanes to the right of all 2.5-inch drive backplanes. All 2.5-inch backplanes must be installed to the left of all 1.8-inch backplanes.
2. The drive bay IDs can vary, depending on the combination of the SAS/SATA drive backplanes installed in the server (see “Drive IDs” on page 51 for more information).
3. The 8x2.5-inch hot-swap drive backplane with controller expander must always be installed in backplane slots 3 and 4, see “Connecting the SAS cables” on page 60 for more information on cabling.

Backplane configuration for 4 drives

The following illustration shows the supported backplane configuration to support four drives.

This configuration consists of one 4x2.5-inch drive backplane and requires one SAS signal cable.



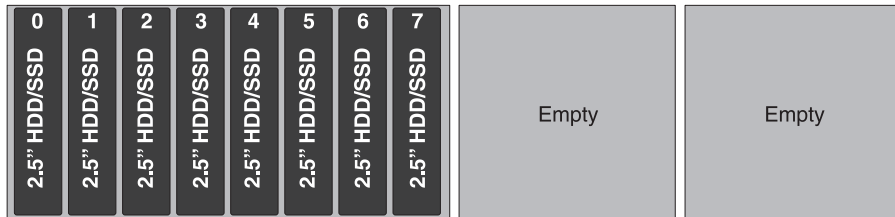
Backplane configurations for 8 drives

The following illustrations show the supported backplane configurations to support eight drives.

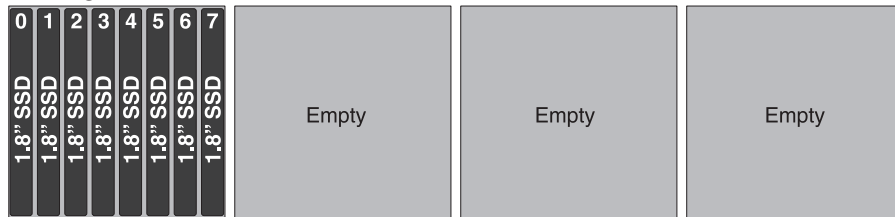
This configuration consists of two 4x2.5-inch drive backplanes and requires two SAS signal cables.



This configuration consists of one 8x2.5-inch drive backplane and requires two SAS signal cables.



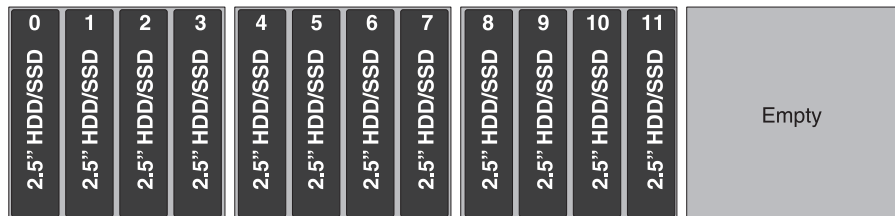
This configuration consists of one 8x1.8-inch drive backplane and requires two SAS signal cables.



Backplane configurations for 12 drives

The following illustrations show the supported backplane configurations to support 12 drives.

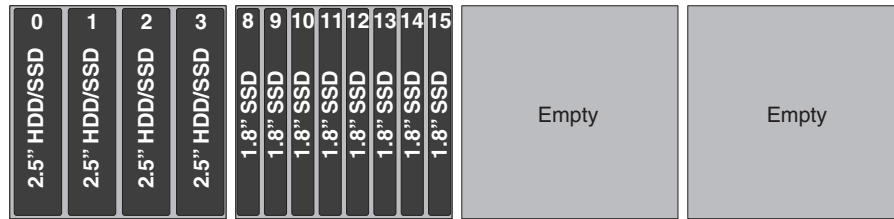
This configuration consists of three 4x2.5-inch drive backplanes and requires three SAS signal cables.



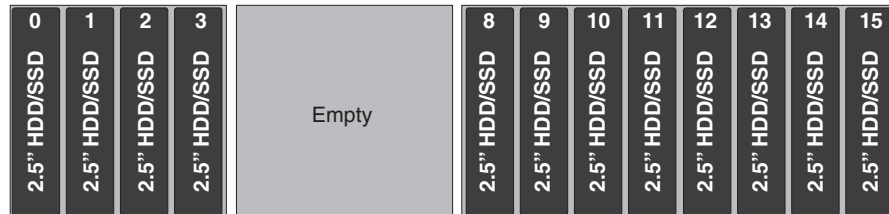
This configuration consists of one 8x2.5-inch drive backplane and one 4x2.5-inch drive backplane and requires three SAS signal cables.



This configuration consists of one 4x2.5-inch drive backplane and one 8x1.8-inch drive backplane and requires three SAS signal cables.



This configuration consists of one 4x2.5-inch drive backplane and one 8x2.5-inch drive backplane with controller expander and requires two SAS signal cables.



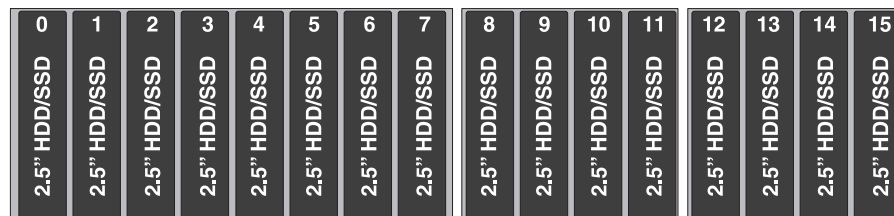
Backplane configurations for 16 drives

The following illustrations show the supported backplane configurations to support 16 drives.

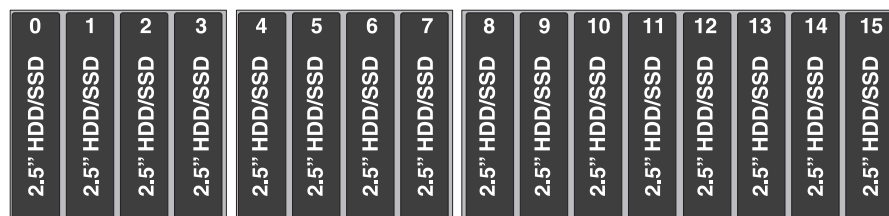
This configuration consists of four 4x2.5-inch drive backplanes and requires four SAS signal cables.



This configuration consists of one 8x2.5-inch drive backplane and two 4x2.5-inch drive backplanes and requires four SAS signal cables.



This configuration consists of two 4x2.5-inch drive backplanes and one 8x2.5-inch drive backplane and requires four SAS signal cables.



This configuration consists of two 8x2.5-inch drive backplanes and requires four SAS signal cables.

2.5" HDD/SSD	0	2.5" HDD/SSD	1	2.5" HDD/SSD	2	2.5" HDD/SSD	3	2.5" HDD/SSD	4	2.5" HDD/SSD	5	2.5" HDD/SSD	6	2.5" HDD/SSD	7	2.5" HDD/SSD	8	2.5" HDD/SSD	9	2.5" HDD/SSD	10	2.5" HDD/SSD	11	2.5" HDD/SSD	12	2.5" HDD/SSD	13	2.5" HDD/SSD	14	2.5" HDD/SSD	15
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This configuration consists of one 8x2.5-inch drive backplane and one 8x2.5-inch drive backplane with controller expander and requires two SAS signal cables.

2.5" HDD/SSD	0	2.5" HDD/SSD	1	2.5" HDD/SSD	2	2.5" HDD/SSD	3	2.5" HDD/SSD	4	2.5" HDD/SSD	5	2.5" HDD/SSD	6	2.5" HDD/SSD	7	2.5" HDD/SSD	8	2.5" HDD/SSD	9	2.5" HDD/SSD	10	2.5" HDD/SSD	11	2.5" HDD/SSD	12	2.5" HDD/SSD	13	2.5" HDD/SSD	14	2.5" HDD/SSD	15
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This configuration consists of two 4x2.5-inch drive backplanes and one 8x1.8-inch drive backplane and requires four SAS signal cables.

2.5" HDD/SSD	0	2.5" HDD/SSD	1	2.5" HDD/SSD	2	2.5" HDD/SSD	3	2.5" HDD/SSD	4	2.5" HDD/SSD	5	2.5" HDD/SSD	6	2.5" HDD/SSD	7	1.8" SSD	16	1.8" SSD	17	1.8" SSD	18	1.8" SSD	19	1.8" SSD	20	1.8" SSD	21	1.8" SSD	22	1.8" SSD	23	Empty

This configuration consists of one 8x2.5-inch drive backplane and one 8x1.8-inch drive backplane and requires four SAS signal cables.

2.5" HDD/SSD	0	2.5" HDD/SSD	1	2.5" HDD/SSD	2	2.5" HDD/SSD	3	2.5" HDD/SSD	4	2.5" HDD/SSD	5	2.5" HDD/SSD	6	2.5" HDD/SSD	7	1.8" SSD	16	1.8" SSD	17	1.8" SSD	18	1.8" SSD	19	1.8" SSD	20	1.8" SSD	21	1.8" SSD	22	1.8" SSD	23	Empty

This configuration consists of two 8x1.8-inch drive backplanes and requires four SAS signal cables.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Empty		Empty	
1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD				

This configuration consists of two 4x2.5-inch drive backplanes and one 8x2.5-inch drive backplane with controller expander and requires two SAS signal cables.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD

Backplane configurations for 20 drives

The following illustrations show the supported drive backplane configurations to support 20 drives.

This configuration consists of three 4x2.5-inch drive backplanes and one 8x1.8-inch drive backplane and requires five SAS signal cables.

0	1	2	3	4	5	6	7	8	9	10	11	24	25	26	27	28	29	30	31
2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD

This configuration consists of one 8x2.5-inch drive backplane, one 4x2.5-inch drive backplane, and one 8x1.8-inch drive backplane and requires five SAS signal cables.

0	1	2	3	4	5	6	7	8	9	10	11	24	25	26	27	28	29	30	31
2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD

This configuration consists of one 4x2.5-inch drive backplane and two 8x1.8-inch drive backplanes and requires five SAS signal cables.

0	1	2	3	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Empty					
2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	2.5" HDD/SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD	1.8" SSD						

Backplane configurations for 24 drives

The following illustrations show the supported backplane configurations to support 24 drives.

This configuration consists of two 4x2.5-inch drive backplanes and two 8x1.8-inch drive backplanes and requires six SAS signal cables.

2.5" HDD/SSD	0	2.5" HDD/SSD	1	2.5" HDD/SSD	2	2.5" HDD/SSD	3	2.5" HDD/SSD	4	2.5" HDD/SSD	5	2.5" HDD/SSD	6	2.5" HDD/SSD	7	1.8" SSD	16	1.8" SSD	17	1.8" SSD	18	1.8" SSD	19	1.8" SSD	20	1.8" SSD	21	1.8" SSD	22	1.8" SSD	23	1.8" SSD	24	1.8" SSD	25	1.8" SSD	26	1.8" SSD	27	1.8" SSD	28	1.8" SSD	29	1.8" SSD	30	1.8" SSD	31	1.8" SSD
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This configuration consists of one 8x2.5-inch drive backplane and two 8x1.8-inch drive backplanes and requires six SAS signal cables.

2.5" HDD/SSD	0	2.5" HDD/SSD	1	2.5" HDD/SSD	2	2.5" HDD/SSD	3	2.5" HDD/SSD	4	2.5" HDD/SSD	5	2.5" HDD/SSD	6	2.5" HDD/SSD	7	1.8" SSD	16	1.8" SSD	17	1.8" SSD	18	1.8" SSD	19	1.8" SSD	20	1.8" SSD	21	1.8" SSD	22	1.8" SSD	23	1.8" SSD	24	1.8" SSD	25	1.8" SSD	26	1.8" SSD	27	1.8" SSD	28	1.8" SSD	29	1.8" SSD	30	1.8" SSD	31	1.8" SSD
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This configuration consists of three 8x1.8-inch drive backplanes and requires six SAS signal cables.

1.8" SSD	0	1.8" SSD	1	1.8" SSD	2	1.8" SSD	3	1.8" SSD	4	1.8" SSD	5	1.8" SSD	6	1.8" SSD	7	1.8" SSD	8	1.8" SSD	9	1.8" SSD	10	1.8" SSD	11	1.8" SSD	12	1.8" SSD	13	1.8" SSD	14	1.8" SSD	15	1.8" SSD	16	1.8" SSD	17	1.8" SSD	18	1.8" SSD	19	1.8" SSD	20	1.8" SSD	21	1.8" SSD	22	1.8" SSD	23	1.8" SSD	Empty							
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Backplane configuration for 28 drives

The following illustration shows the supported backplane configuration to support 28 drives.

This configuration consists of one 4x2.5-inch drive backplane and three 8x1.8-inch drive backplanes and requires seven SAS signal cables.

2.5" HDD/SSD	0	2.5" HDD/SSD	1	2.5" HDD/SSD	2	2.5" HDD/SSD	3	1.8" SSD	8	1.8" SSD	9	1.8" SSD	10	1.8" SSD	11	1.8" SSD	12	1.8" SSD	13	1.8" SSD	14	1.8" SSD	15	1.8" SSD	16	1.8" SSD	17	1.8" SSD	18	1.8" SSD	19	1.8" SSD	20	1.8" SSD	21	1.8" SSD	22	1.8" SSD	23	1.8" SSD	24	1.8" SSD	25	1.8" SSD	26	1.8" SSD	27	1.8" SSD	28	1.8" SSD	29	1.8" SSD	30	1.8" SSD	31	1.8" SSD
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Backplane configuration for 32 drives

The following illustration shows the supported backplane configuration to support 32 drives.

This configuration consists of four 8x1.8-inch drive backplanes and requires eight SAS signal cables.

1.8" SSD	0	1.8" SSD	1	1.8" SSD	2	1.8" SSD	3	1.8" SSD	4	1.8" SSD	5	1.8" SSD	6	1.8" SSD	7	1.8" SSD	8	1.8" SSD	9	1.8" SSD	10	1.8" SSD	11	1.8" SSD	12	1.8" SSD	13	1.8" SSD	14	1.8" SSD	15	1.8" SSD	16	1.8" SSD	17	1.8" SSD	18	1.8" SSD	19	1.8" SSD	20	1.8" SSD	21	1.8" SSD	22	1.8" SSD	23	1.8" SSD	24	1.8" SSD	25	1.8" SSD	26	1.8" SSD	27	1.8" SSD	28	1.8" SSD	29	1.8" SSD	30	1.8" SSD	31	1.8" SSD
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Connecting the SAS cables

The following table provides information for connecting the SAS cables to the drive backplanes (BP) based on the backplane slot and supported drive backplane configurations:

Table 14. Connecting the SAS cables to the drive backplanes (BP) based on the configurations

Drive backplane	BP 1	BP 2	BP 3	BP 4
4x2.5-inch drive backplane	<ul style="list-style-type: none"> Connect the SAS cable from BP 1 to the SAS signal connector port 0 on the system board. 	<ul style="list-style-type: none"> Connect the SAS cable from BP 2 to the SAS signal connector port 1 on the system board. 	<ul style="list-style-type: none"> Connect the SAS cable from BP 3 to port 0 on the PCIe adapter. 	<ul style="list-style-type: none"> Connect the SAS cable from BP 4 to port 1 on the PCIe adapter.
8x2.5-inch drive backplane	<ul style="list-style-type: none"> Connect one SAS cable from BP 1 to the SAS signal connector port 0 on the system board. Connect one SAS cable from BP 2 to the SAS signal connector port 1 on the system board. 		<ul style="list-style-type: none"> Connect one SAS cable from BP 3 to port 0 on the PCIe adapter. Connect one SAS cable from BP 4 to port 1 on the PCIe adapter. 	
8x2.5-inch drive backplane with controller expander			<ul style="list-style-type: none"> Connect one SAS cable from BP 3 to the SAS signal connector port 0 on the system board Connect one SAS cable from BP 4 to the SAS signal connector port 1 on the system board 	
8x1.8-inch drive backplane	<ul style="list-style-type: none"> Connect two SAS cables from BP 1 to the two SAS signal connectors on the system board. 	<ul style="list-style-type: none"> Connect two SAS cables from BP 2 to the connectors on the PCIe adapter. 	<ul style="list-style-type: none"> Connect two SAS cables from BP 3 to the connectors on the PCIe adapter. 	<ul style="list-style-type: none"> Connect two SAS cables from BP 4 to the connectors on the PCIe adapter.
<p>Note: Follow this general rule for connecting the SAS signal cables to the drive backplanes and adapters:</p> <ul style="list-style-type: none"> Port 0 on the drive backplane to Port 0 on the adapter Port 1 on the drive backplane to Port 1 on the adapter 				

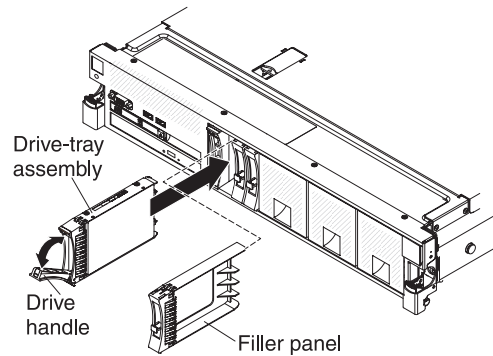
Installing 2.5-inch and 1.8-inch hot-swap drives

To install a hot-swap SAS or SATA drive, complete the following steps. For information about installing drives, see “Installing drives” on page 50.

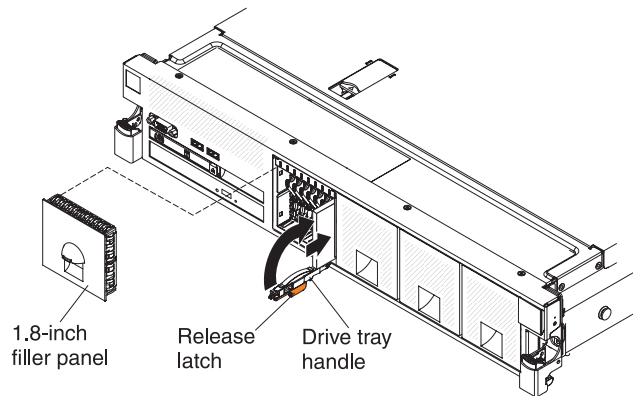
Note: If you install only one drive, you must install it in drive bay 0.

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Touch the static-protective package that contains the drive to any unpainted metal surface on the server; then, remove the drive from the package and place it on a static-protective surface.
3. **To install a 2.5-inch drive**, complete the following steps:
 - a. Remove the filler panel from the empty drive bay.

- b. Make sure that the drive-tray handle is in the open (unlocked) position.
- c. Align the drive assembly with the guide rails in the bay.



- d. Gently push the drive assembly into the drive bay until the drive stops.
 - e. Rotate the drive-tray handle to the closed (locked) position.
 - f. Skip to step 5.
4. **To install a 1.8-inch drive**, complete the following steps:
- a. Remove the filler panel (EMC filler panel).
 - b. Grasp the orange release latch on the drive tray handle of the drive tray in which you want to install the drive and slide the release latch down to unlock the drive tray handle; then, rotate the drive tray handle down.



- c. Insert the drive into the drive tray with the label side of the drive facing the right side of the server and push the drive tray toward the server to slide the drive into the drive bay until it clicks into place and is seated firmly.
 - d. Rotate the drive tray handle to the closed position and slide the release latch up to secure the drive tray handle in place.
 - e. Replace the filler panel (EMC filler panel).
5. Check the drive status LED to verify that the drive is operating correctly. If the amber drive status LED for a drive is lit continuously, that drive is faulty and must be replaced. If the green drive activity LED is flashing, the drive is being accessed.

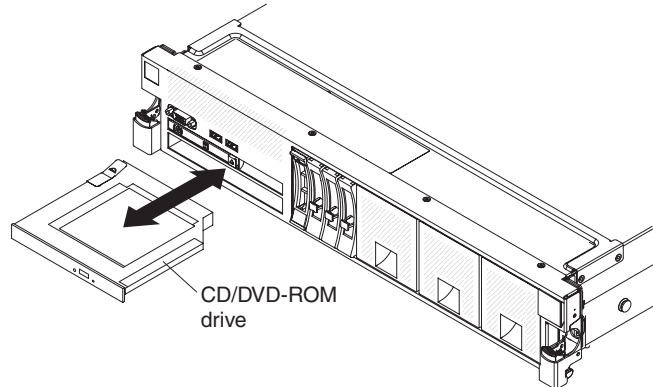
Note: If the server is configured for RAID operation through a ServeRAID adapter, you might have to reconfigure your disk arrays after you install drives. See the ServeRAID adapter documentation for additional information about RAID operation and complete instructions for using the ServeRAID adapter.

6. If you are installing additional hot-swap drives, do so now.
7. Complete the additional steps in "Instructions for IBM Business Partners" on page 24.

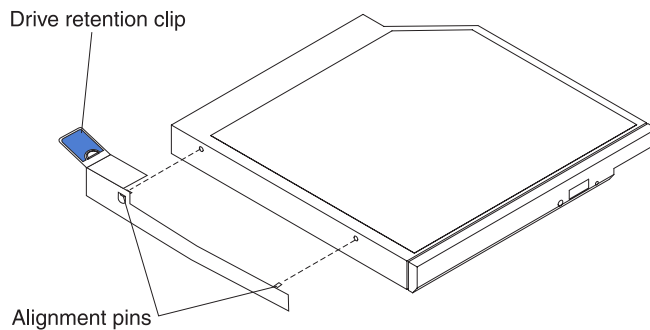
Installing an optional CD/DVD drive

To install an optional CD/DVD drive, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. Locate the blue release tab on the rear of the CD/DVD drive bay; then, while you press the tab, push the CD/DVD filler toward the front of the server.



5. Pull the CD/DVD drive filler out of the front of the server.
6. Touch the static-protective package that contains the new optical drive to any unpainted metal surface on the server; then, remove the optical drive from the package and place it on a static-protective surface.
7. Remove the retention clip from the side of the drive filler.



Note: If you are installing a drive that contains a laser, observe the following safety precaution.

Statement 3



CAUTION:

When laser products (such as CD-ROMs, DVD drives, fiber optic devices, or transmitters) are installed, note the following:

- Do not remove the covers. Removing the covers of the laser product could result in exposure to hazardous laser radiation. There are no serviceable parts inside the device.
- Use of controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.



DANGER

Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following.

Laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.



Class 1 Laser Product
Laser Klasse 1
Laser Klass 1
Luokan 1 Laserlaite
Appareil À Laser de Classe 1

8. Attach the drive retention clip that you removed from the previous drive to the side of the new drive.

Note: Be sure to align the bend on the drive retention clip tab with the rear edge of the CD/DVD drive. Your drive might have more mounting holes than what is shown in the illustration. Adjust the retention clip alignment based on your drive.

9. Align the drive in the drive bay and slide the drive into the CD/DVD drive bay until the drive clicks into place.

If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

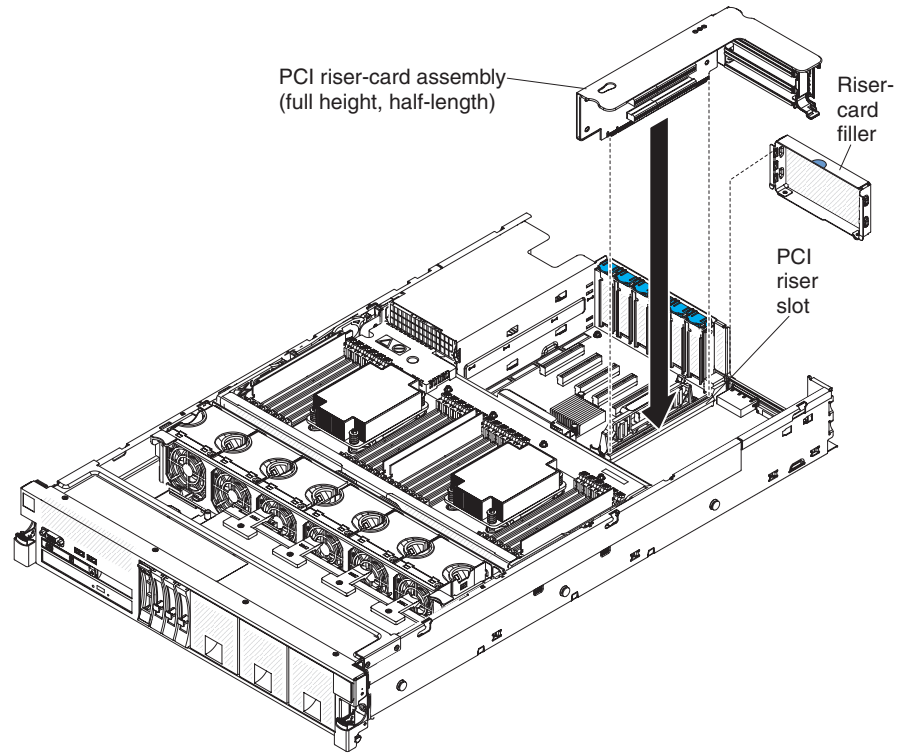
Installing a PCIe riser-card assembly

For the location of the PCIe riser-card slot on the system board, see “System-board internal connectors” on page 26.

To install a PCIe riser-card assembly, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and the “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).

4. Remove the riser-card filler.
5. If you are installing adapters into the PCIe riser-card assembly (see “Installing an adapter”).
6. Align the PCIe riser-card assembly with the PCIe riser-card connector on the system board and align it with the slot on the chassis; then, lower it into the server and press down firmly until the riser-card assembly is seated correctly in the connector on the system board.



If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Installing an adapter

The following notes describe the types of adapters that the server supports and other information that you must consider when you install an adapter:

- To confirm that the server supports the adapter that you are installing, see <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/>.
- Locate the documentation that comes with the adapter and follow those instructions in addition to the instructions in this section.
- The server does not support any high-definition video-out connector or stereo connector on any add-on video adapter.
- The server does not support PCI-X adapters or legacy 5 V PCI adapters.
- Disconnect the power cords from the power source before you remove or install any adapter or riser card.
- The server supports two optional Ethernet adapters that you can purchase: the IBM dual-port 10Gb SFP (fiber) Ethernet adapter and the IBM dual-port 10Gb-T (copper) Ethernet adapter. For more information, see Table 16 on page 66).
- The server provides one PCIe riser-card slot on the system board. The riser-card provides three PCI Express Gen3 adapter slots (see “PCIe riser card” on page 33 for the location of the PCIe slots on the riser card). The system board provides

five additional PCI Express Gen3 adapter slots (see “System-board optional-device connectors” on page 31 for the location of the PCIe slots on the system board). Some models come with the PCIe riser-card assembly with brackets installed. The following table lists the PCIe slots on the riser-card and the system board, the microprocessor to which each slot is connected, and the supported adapters that you can install in each slot.

Table 15. PCIe slots, the microprocessor which supports the PCIe slot, and the size of the PCIe adapters supported

PCIe slots	Slot on PCI riser card	Slot on the system board	Microprocessor to which the slot is connected	Adapters supported in the slot
Slot 1	Yes		Microprocessor 2	PCIe Gen3 x16 (x8, x4, x2, x1) full-height, half-length adapter
Slot 2	Yes		Microprocessor 2	PCIe Gen3 x16 (x8, x4, x2, x1) full-height, half-length adapter
Slot 3	Yes		Microprocessor 2	PCIe Gen3 x16 (x8, x4, x2, x1) full-height, half-length adapter
Slot 4		Yes	Microprocessor 2	PCIe Gen3 x8 low-profile adapter
Slot 5		Yes	Microprocessor 2	PCIe Gen3 x8 low-profile adapter
Slot 6		Yes	Microprocessor 1	PCIe Gen3 x8 low-profile adapter
Slot 7		Yes	Microprocessor 1	PCIe Gen3 x8 low-profile adapter
Slot 8		Yes	Microprocessor 1	PCIe Gen3 x8 low-profile adapter
Note: <ul style="list-style-type: none"> The x16 (x8) designation for a PCIe slot identifies a x16 slot that is wired for x8. If you install a x16 adapter in this slot that can downshift to the x8 bandwidth, it will run at the x8 bandwidth. The x16 connector can be used for x8, x4, x2, x1, and x16 adapters. Check the information that comes with your adapter for compatibility information. The server also supports PCIe Gen1 and Gen2 adapters. 				

- The server comes with an onboard RAID controller that provides basic RAID levels 0, 1, and 10 functionality. The server supports optional RAID controllers, RAID cache cards, and Feature On Demand software RAID that you can purchase for additional RAID levels 5, 6, 50, and 60 support. For configuration information, see the documentation that comes with the adapter or the ServeRAID documentation at <http://www.ibm.com/supportportal/>.

For more information about the supported adapters, see Table 16 on page 66. For more information about the supported RAID cache cards, see Table 17 on page 68. For more information about the supported Features on Demand (FoD) software, see Table 18 on page 69. For instructions on how to install an adapter, see “Adapter installation instructions” on page 69.

Supported adapters

The following table lists the adapters that the server supports:

Table 16. Supported adapters, slot in which to install the adapters, and information about the adapters.

Name of adapter	Suggested slot installation sequence	Notes
ServeRAID M5110 SAS/SATA Controller for IBM System x	PCIe slots 1, 2, and 3	<ul style="list-style-type: none"> Provides base RAID levels 0, 1, and 10: <ul style="list-style-type: none"> With the ServeRAID M5100 Series Zero Cache/RAID 5 Upgrade for IBM System x (Features On Demand software RAID) enabled on this adapter, you also get RAID levels 5 and 50 support. You can also install the following RAID cache cards on this adapter to get RAID levels 5 and 50 support: <ul style="list-style-type: none"> ServeRAID M5100 Series 512 MB Cache/RAID 5 Upgrade for IBM System x ServeRAID M5100 Series 512 MB Flash/RAID 5 Upgrade for IBM System x ServeRAID M5100 Series 1 GB Flash/RAID 5 Upgrade for IBM System x <p>Note: When any of these three cache cards is installed on this adapter, you can enable the ServeRAID M5100 Series RAID 6 Upgrade for IBM System x (Features On Demand software RAID) to get RAID levels 6 and 60 support. Optionally, the ServeRAID M5100 Series SSD Caching Enabler for IBM System x (Features On Demand software RAID) can be enabled to accelerate solid-state drive RAID devices and reduce processing overhead associated with caching or the ServeRAID M5100 Series Performance Accelerator for IBM System x (Features On Demand software RAID) can be enabled to allow HDD RAID array to have its own SSD cache.</p> <ul style="list-style-type: none"> A RAID cache card must be installed on this adapter to run the MegaRAID firmware.
ServeRAID M1115 SAS/SATA Controller for IBM System x	PCIe slots 1, 2, and 3	<ul style="list-style-type: none"> Provides base RAID levels 0, 1, and 10: <ul style="list-style-type: none"> With the ServeRAID M1100 Series Zero Cache/RAID 5 Upgrade for IBM System x (Features On Demand software RAID) enabled on this adapter, you also get RAID level 5 and 50 support. Optionally, the ServeRAID M5100 Series SSD Caching Enabler for IBM System x (Features On Demand software RAID) can be enabled on this adapter to accelerate solid-state drive RAID devices and reduce processing overhead that is associated with caching. Does not support the following RAID cache cards: <ul style="list-style-type: none"> ServeRAID M5100 Series 512 MB Cache/RAID 5 Upgrade for IBM System x ServeRAID M5100 Series 512 MB Flash/RAID 5 Upgrade for IBM System x ServeRAID M5100 Series 1 GB Flash/RAID 5 Upgrade for IBM System x

Table 16. Supported adapters, slot in which to install the adapters, and information about the adapters. (continued)

Name of adapter	Suggested slot installation sequence	Notes
ServeRAID M5120 SAS/SATA Controller for IBM System x	PCIe slots 1, 2, 3, 4, 5, 6, 7, and 8	<ul style="list-style-type: none"> Provides base RAID levels 0, 1, 5, 10, and 50 (This adapter comes with a cache card installed): <ul style="list-style-type: none"> With the ServeRAID M5100 Series RAID 6 Upgrade for IBM System x (Features On Demand software RAID) enabled on this adapter, you also get RAID level 6 and 60 support. You can also install the following RAID cache cards on this adapter for RAID levels 5 and 50 support: <ul style="list-style-type: none"> ServeRAID M5100 Series 512 MB Cache/RAID 5 Upgrade for IBM System x ServeRAID M5100 Series 512 MB Flash/RAID 5 Upgrade for IBM System x ServeRAID M5100 Series 1 GB Flash/RAID 5 Upgrade for IBM System x <p>Note: When any of these three cache cards is installed on this adapter, you can enable the ServeRAID M5100 Series RAID 6 Upgrade for IBM System x (Features On Demand software RAID) to get RAID levels 6 and 60 support. Optionally, the ServeRAID M5100 Series SSD Caching Enabler for IBM System x (Features On Demand software RAID) can be enabled on this adapter to accelerate solid-state drive RAID devices and reduce processing overhead that is associated with caching.</p> <ul style="list-style-type: none"> A RAID cache card must be installed on this adapter to run the MegaRAID firmware. The adapter supports external cabling. The battery must always be mounted remotely in the server.
IBM 6Gb Performance Optimized Host Bus Adapter	PCIe slots 1, 2, 3, 4, 5, 6, 7, and 8	<ul style="list-style-type: none"> This solid-state drive controller provides no RAID support. It helps provide optimized performance for applications that do not need RAID support.
IBM Dual-port 10 Gb-T (copper) Ethernet Adapter	Installs in the optional 10 Gb Ethernet adapter connector on the system board.	Install this adapter in the 10 Gb Ethernet adapter connector on the system board. For the location of the connector, see "System-board internal connectors" on page 26.
IBM Dual-port 10 Gb SFP+ (fibre) Ethernet Adapter	Installs in the optional 10 Gb Ethernet adapter connector on the system board.	Install this adapter in the 10 Gb Ethernet adapter connector on the system board. For the location of the connector, see "System-board internal connectors" on page 26.

Supported RAID cache cards

The following table lists the supported RAID cache cards:

Table 17. Supported RAID cache cards and where you can install the cache cards.

RAID cache card	Where to install the card	Notes
ServeRAID M5100 Series 512 MB Cache/RAID 5 Upgrade for IBM System x (RAID cache card)	<p>You can install this cache card in the optional SAS adapter connector on the system board or the following ServeRAID controllers:</p> <ul style="list-style-type: none"> • ServeRAID M5110 SAS/SATA Controller for IBM System x • ServeRAID M5120 SAS/SATA Controller for IBM System x 	<ul style="list-style-type: none"> • To keep the SDRAM on this cache card in a self-refresh state, you can purchase and attach the optional ServeRAID M5100 Series Battery Kit for System x. • Provides RAID levels 5 and 50 upgrade support. • Enables the ServeRAID controller to run MegaRAID firmware. • Has 40-bit memory.
ServeRAID M5100 Series 512 MB Flash/RAID 5 Upgrade for IBM System x (RAID cache card)	<p>You can install this cache card to the optional SAS adapter connector on the system board or the following ServeRAID controllers:</p> <ul style="list-style-type: none"> • ServeRAID M5110 SAS/SATA Controller for IBM System x • ServeRAID M5120 SAS/SATA Controller for IBM System x 	<ul style="list-style-type: none"> • This cache card comes with a flash power module (Supercap pack) that you can attach to this card. It powers the integrated RAID subsystem long enough to store the cache contents to flash in the event of a power loss. The flash power module must be installed remotely in the server (see “Installing a RAID adapter battery or flash power module” on page 83 for information about where to install the flash power module in the server). • Provides RAID levels 5 and 50 upgrade support. • Enables the ServeRAID controller to run MegaRAID firmware. • Has 72-bit memory.
ServeRAID M5100 Series 1 GB Flash/RAID 5 Upgrade for IBM System x (RAID cache card)	<p>You can connect this cache card to the optional SAS adapter connector on the system board or the following ServeRAID controllers:</p> <ul style="list-style-type: none"> • ServeRAID M5110 SAS/SATA Controller for IBM System x • ServeRAID M5120 SAS/SATA Controller for IBM System x 	<ul style="list-style-type: none"> • This cache card comes with a flash power module (Supercap pack) that you can attach to this card. It powers the integrated RAID subsystem long enough to store the cache contents to flash in the event of a power loss. The flash power module must be installed remotely in the server (see “Installing a RAID adapter battery or flash power module” on page 83 for information about where to install the flash power module in the server). • Provides RAID levels 5 and 50 upgrade support. • Enables the ServeRAID controller to run MegaRAID firmware. • Has 72-bit memory.

Supported features on demand software

The following table lists the supported Features on Demand (FoD) software:

Table 18. Supported Features on Demand software and information about the Features on Demand

Features On Demand software	Notes
ServeRAID M1100 Series Zero Cache/RAID 5 Upgrade for IBM System x	<ul style="list-style-type: none">Provides RAID levels 5 and 50 support.
ServeRAID M5100 Series RAID 6 Upgrade for IBM System x	<ul style="list-style-type: none">Provides RAID levels 6 and 60 support.
ServeRAID M5100 Series Performance Accelerator for IBM System x (FoD FastPath)	<ul style="list-style-type: none">Accelerates solid-state drive RAID devices by reducing the processing overhead that is associated with caching.One of the RAID cache cards must be installed in the RAID cache card connector on the system board to enable this capability.
ServeRAID M5100 Series SSD Caching Enabler for IBM System x (FoD Cachecade 1 or 2)	<ul style="list-style-type: none">Enables a hard disk drive RAID array to have its own solid-state drive cache. The solid-state drive cache is much larger than the DRAM cache on the controller and can provide better performance acceleration. Cachecade 1 is read cache only, and Cachecade 2 adds write caching.

Adapter installation instructions

Note:

- The instructions in this section apply to any supported adapter (for example, network adapters).
- The server does not support any high-definition video-out connector or stereo connector on any add-on video adapter.

To install an adapter, complete the following steps:

- Read the safety information and installation guidelines, see “Safety” on page vii and the “Installation guidelines” on page 33.
- Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
- Remove the top cover (see “Removing the server top cover” on page 35).
- Remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.
- Follow the cabling instructions, if any come with the adapter. Route the adapter cables before you install the adapter. The cables should be routed through the SAS cable guide.
- To install an adapter on the system board**, complete the following steps:
 - Open the PCIe retention latch and remove the PCIe filler bracket from the connector in which you want to install the adapter.

- b. Insert the adapter into the PCIe slot, aligning the edge connector on the adapter with the connector on the system board. Press the edge of the connector on the adapter *firmly* into the connector on the system board. Make sure that the adapter snaps into the PCIe connector securely.

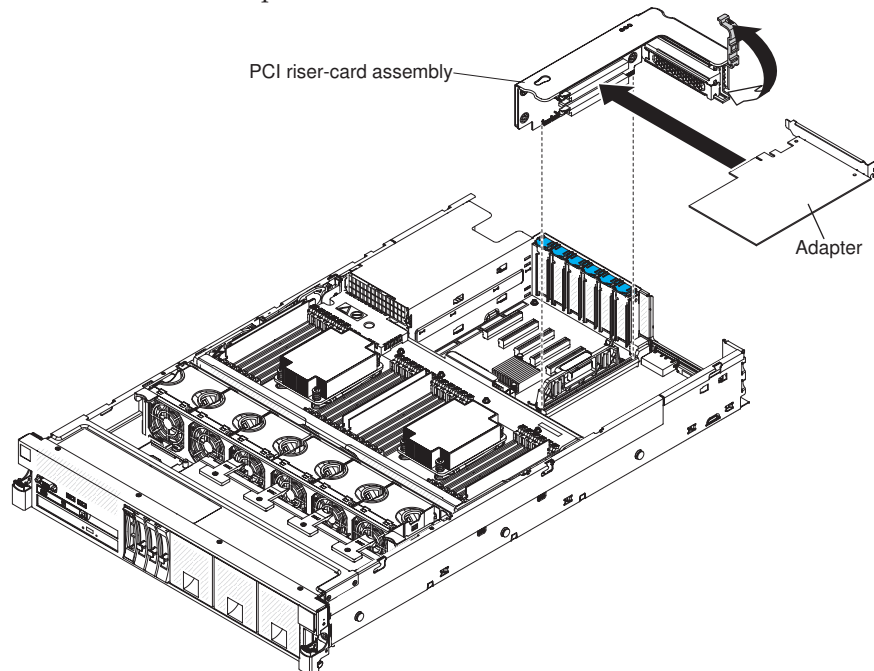
Attention: Make sure that the adapter is correctly seated. An incorrectly seated adapter might cause damage to the system board or the adapter.

- c. Close the PCIe retention latch.
- d. Skip to step 8.

7. **To install an adapter on the PCIe riser-card assembly**, complete the following steps:

- a. Grasp the riser-card assembly by the blue touch points and pull it up until it disengages from the connector on the system board.
- b. Open the PCIe retention latch.
- c. Remove the PCIe filler bracket from the slot in which you want to install the adapter.
- d. Make sure that the PCIe retention latch is in the open position.
- e. Insert the adapter into the connector on the riser-card assembly, aligning the edge connector on the adapter with the connector on the riser card assembly. Press the edge of the connector on the adapter *firmly* into the riser card assembly connector. Make sure that the adapter snaps into the connector on the riser card assembly securely.

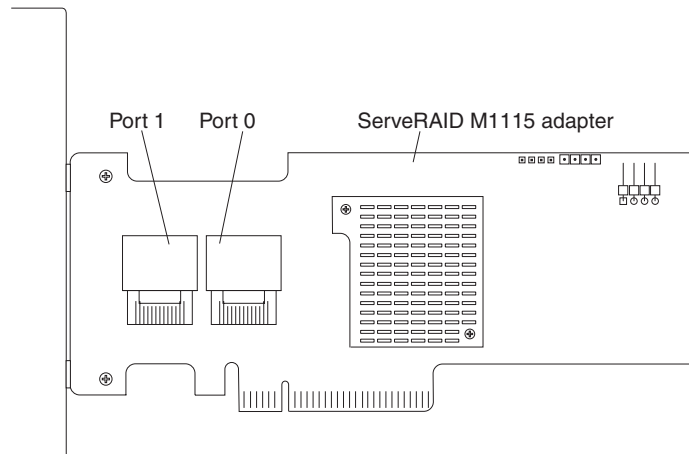
Attention: Make sure that the adapter is correctly seated into the riser card assembly connector and that the riser card assembly is correctly seated into the connector on the system board before you turn on the server. An incorrectly seated adapter might cause damage to the system board, the riser card, or the adapter.



- f. Close the PCIe retention latch.
 - g. Install the riser-card assembly in the server (see “Installing a PCIe riser-card assembly” on page 63).
8. Perform any configuration tasks that are required for the adapter.

If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Installing the ServeRAID M1115 SAS/SATA Controller



The ServeRAID M1115 SAS/SATA Controller for IBM System x adapter can be installed only in the PCIe slots listed in “Supported adapters” on page 66. The ServeRAID M1115 SAS/SATA controller provides RAID levels 0, 1, and 10. You can upgrade to RAID level 5 with the purchase of the optional RAID flash/cache adapters or software feature. For configuration information, see the ServeRAID documentation at <http://www.ibm.com/supportportal/>.

Attention: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

Note:

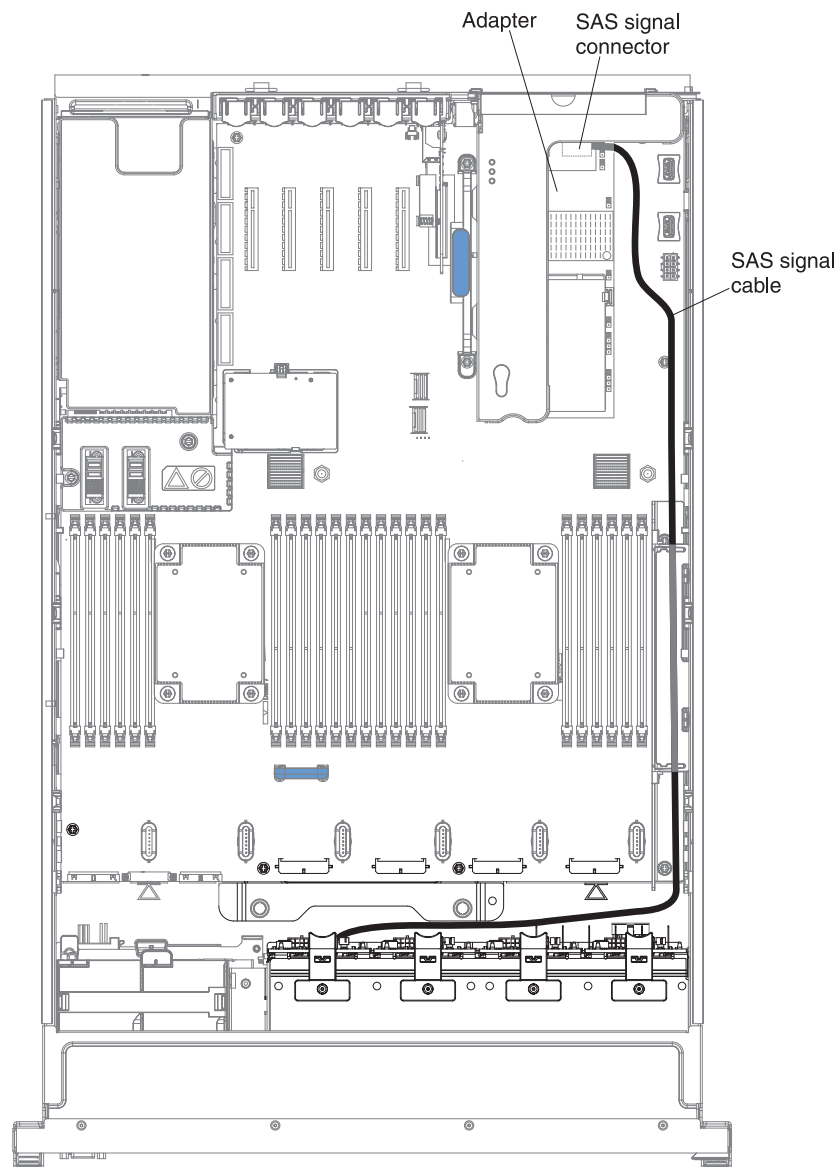
- For additional information and notes about installing adapters, see “Installing an adapter” on page 64.
- Follow the general rule for connecting the SAS signal cables to the adapter and drive backplane: port 0 on the adapter to port 0 on the drive backplane and port 1 on the adapter to port 1 on the drive backplane (depending on the type of drive backplane you install in the server).

To install the adapter if your server model did not come with this adapter, complete the following steps.

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 39).
5. Remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.

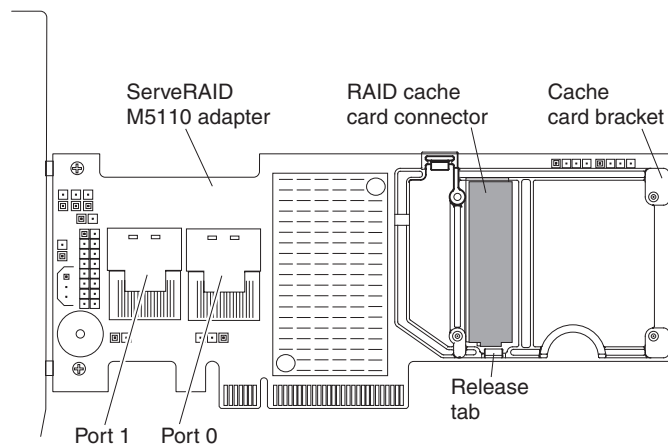
6. Grasp the riser-card assembly by the blue touch points and pull it up until the riser-card assembly disengages from the connector on the system board; then, set it aside.
7. Touch the static-protective package that contains the adapter to any unpainted surface on the outside of the server; then, grasp the adapter by the top edge or upper corners of the adapter and remove it from the package.
8. Make sure that a full-height bracket is installed on the card.
9. Open the PCIe retention latch.
10. Align the adapter so that the keys align correctly with the connector on the riser-card assembly.
11. Insert the adapter into the connector on the riser-card until it is firmly seated.
Attention: Incomplete insertion might cause damage to the server or the adapter.
12. Close the PCIe retention latch.
13. Connect the SAS cables to the adapter.
14. Reinstall the riser-card assembly onto the system board.
15. Route the signal cables through the SAS cable guide and connect the signal cables to the drive backplane.

Note: Follow the general rule for connecting the SAS signal cables to the adapter and drive backplane: port 0 on the adapter to port 0 on the drive backplane and port 1 on the adapter to port 1 on the drive backplane (depending on the type of drive backplanes you installed in the server).



If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Installing the optional ServeRAID M5110 SAS/SATA Controller



You can purchase an optional ServeRAID M5110 SAS/SATA Controller for System x. This adapter can be installed only in the PCIe slots listed in “Supported adapters” on page 66. For configuration information, see the ServeRAID documentation at <http://www.ibm.com/supportportal/>.

Attention: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

Note:

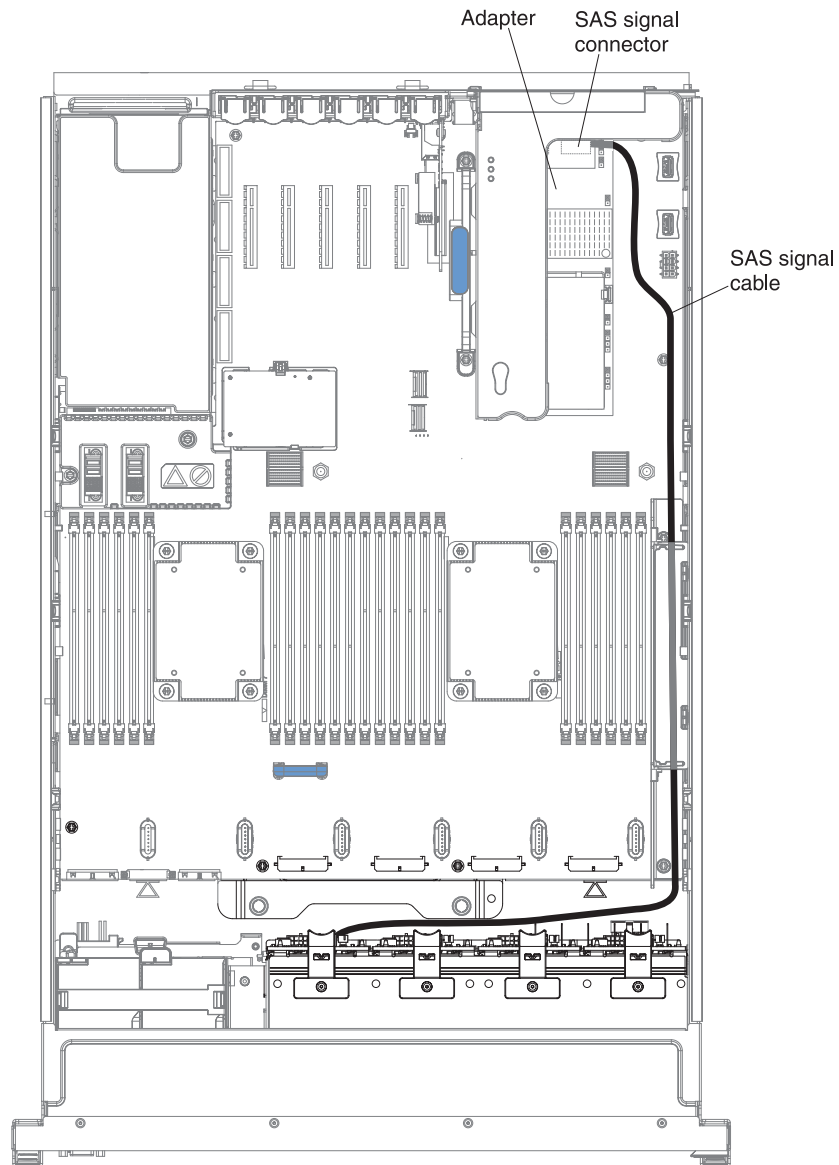
- For additional information and notes about installing adapters see “Installing an adapter” on page 64.
- Follow the general rule for connecting the SAS signal cables to the adapter and drive backplane: port 0 on the adapter to port 0 on the drive backplane and port 1 on the adapter to port 1 on the drive backplane (depending on the type of drive backplane you install in the server).

To install the ServeRAID M5110 SAS/SATA adapter, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 39).
5. Remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.
6. Carefully grasp the riser-card assembly by the blue touch points and pull it until the riser-card assembly disengages from the connector on the system board; then, set it aside.
7. Touch the static-protective package that contains the adapter to any unpainted surface on the outside of the server; then, grasp the adapter by the top edge or upper corners of the adapter and remove it from the package.
8. Make sure that a full-height bracket is installed on the card.
9. Open the PCIe retention latch.
10. Align the adapter so that the keys align correctly with the connector on the riser card assembly.
11. Insert the SAS/SATA adapter into the connector on the riser card until it is firmly seated.

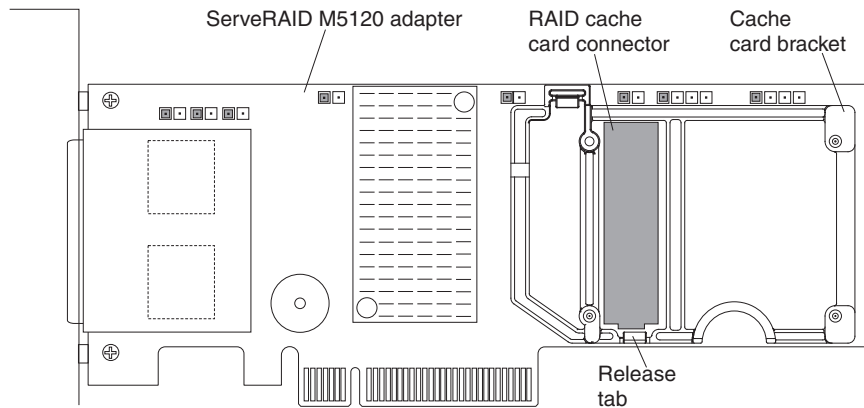
Attention: Incomplete insertion might cause damage to the server or the adapter.
12. Close the PCIe retention latch.
13. Connect the SAS cables to the adapter.
14. Reinstall the riser-card assembly onto the system board.
15. Route the signal cables through the SAS cable guide and connect the signal cable to the drive backplane.

Note: Follow the general rule for connecting the SAS signal cables to the adapter and drive backplane: port 0 on the adapter to port 0 on the drive backplane and port 1 on the adapter to port 1 on the drive backplane (depending on the type of drive backplanes you installed in the server).



If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Installing the optional ServeRAID M5120 SAS/SATA Controller



You can purchase an optional IBM ServeRAID M5120 SAS/SATA Controller for System x. This adapter can be installed only in the PCIe slots listed in “Supported adapters” on page 66. For configuration information, see the ServeRAID documentation at <http://www.ibm.com/supportportal/>.

Attention: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

Note:

- For additional information and notes about installing adapters “Installing an adapter” on page 64.
- Follow the general rule for connecting the SAS signal cables to the adapter and drive backplane: port 0 on the adapter to port 0 on the drive backplane and port 1 on the adapter to port 1 on the drive backplane (depending on the type of drive backplane you install in the server).
- This adapter comes with a RAID cache card. The cache card comes with a battery or flash power module that must be installed remotely in the server (see “Installing a RAID adapter battery or flash power module” on page 83 for more information).
- This adapter is for external RAID and can be used when external storage expansion units are attached to the server.

To install the IBM ServeRAID M5120 SAS/SATA adapter, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 39).
5. Remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.

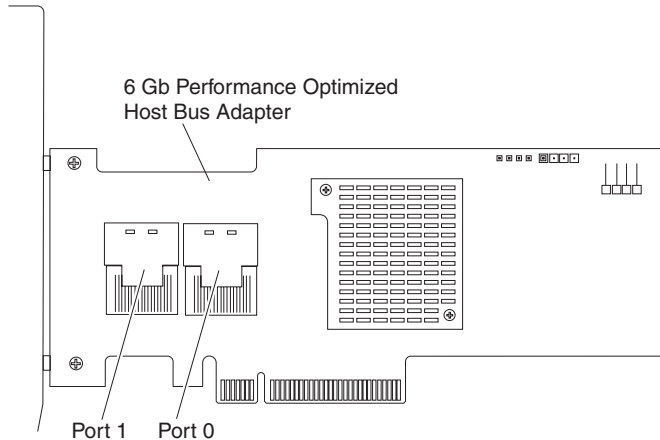
6. Touch the static-protective package that contains the adapter to any unpainted surface on the outside of the server; then, grasp the adapter by the top edge or upper corners of the adapter and remove it from the package.
7. If the RAID cache card is not already attached to the adapter, see “Installing a RAID cache card” on page 80 and “Installing a RAID adapter battery or flash power module” on page 83 for instructions on installing and cabling the cache card.
8. Use one of the following procedures:
 - a. **To install the adapter on the system board**, complete the following steps:
 - 1) Open the PCIe retention latch.
 - 2) Remove the PCIe filler bracket from the slot in which you want to install the adapter.
 - 3) Align the adapter so that the keys align correctly with the connector on the system board.
 - 4) Insert the adapter into the connector on the system board until it is firmly seated.

Attention: Make sure that the adapter is seated correctly. Incomplete insertion might cause damage to the system board or the adapter.
 - 5) Close the PCIe retention latch.
 - 6) Connect the external cables to the adapter.
 - b. **To install the adapter on the PCIe riser-card assembly**, complete the following steps:
 - 1) Carefully grasp the riser-card assembly by the blue touch points and pull it up until the riser-card assembly disengages from the connector on the system board.
 - 2) Open the PCIe retention latch.
 - 3) Remove the PCI filler bracket from the slot in which you want to install the adapter.
 - 4) Align the adapter so that the keys align correctly with the connector on the riser card assembly.
 - 5) Insert the adapter into the connector on the riser card until it is firmly seated.

Attention: Make sure that the adapter is seated correctly. Incomplete insertion might cause damage to the system board, the adapter, and the PCIe riser card assembly.
 - 6) Close the PCI retention latch.
 - 7) Reinstall the riser-card assembly onto the system board.
 - 8) Connect the external cables to the adapter.

If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Installing the IBM 6Gb Performance Optimized Host Bus Adapter



You can purchase an optional IBM 6 Gb Performance Optimized Host Bus Adapter. This solid-state drive controller provides no RAID support; however, it helps to provide optimized performance for applications that do not need RAID support. This adapter can be installed in the PCIe slots listed in “Supported adapters” on page 66. For configuration information, see the documentation that comes with the adapter.

Attention: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

Note:

- For additional information and notes about installing the adapters “Installing an adapter” on page 64.
- Follow the general rule for connecting the SAS signal cables to the adapter and drive backplane: port 0 on the adapter to port 0 on the drive backplane and port 1 on the adapter to port 1 on the drive backplane (depending on the type of drive backplane you install in the server).

To install the adapter, complete the following steps:

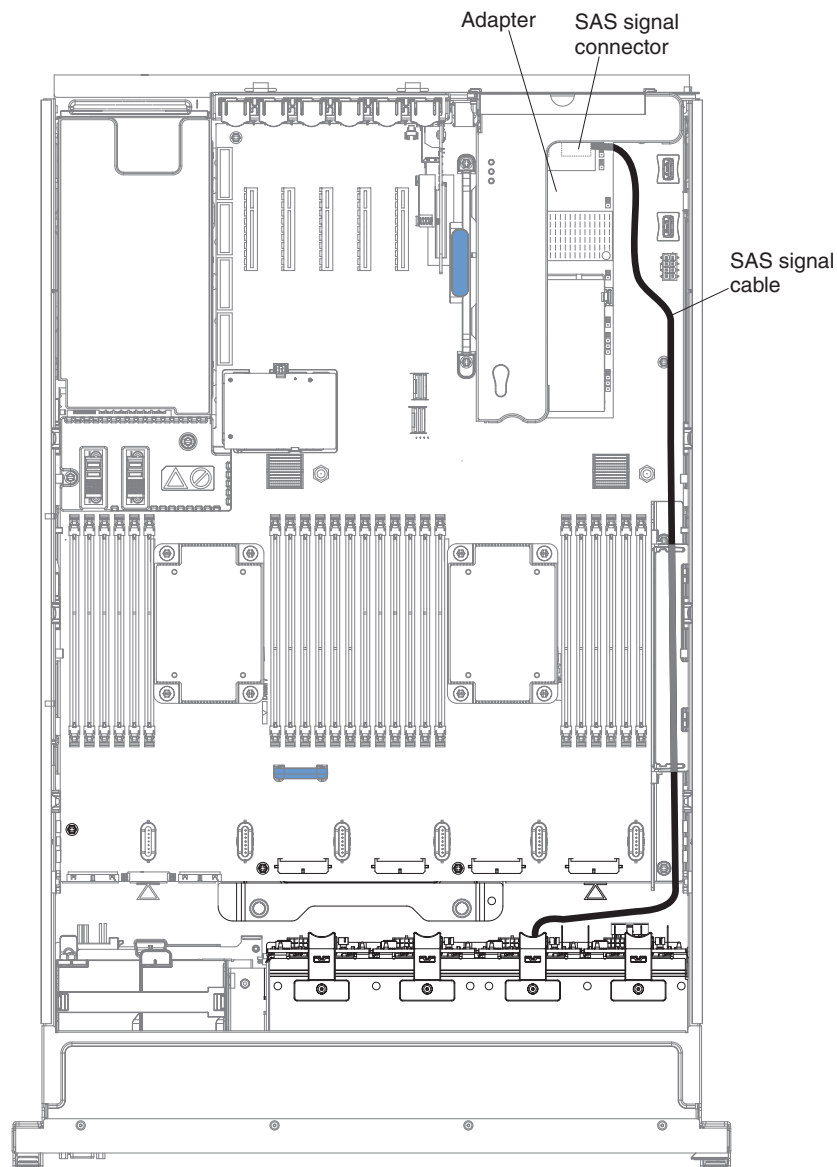
1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 39).
5. Remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.
6. Touch the static-protective package that contains the adapter to any unpainted surface on the outside of the server; then, grasp the adapter by the top edge or upper corners of the adapter and remove it from the package.
7. Use one of the following procedures:

- a. **To install the adapter on the system board**, complete the following steps:
 - 1) Open the PCIe retention latch.
 - 2) Remove the PCIe filler bracket from the slot in which you want to install the adapter.
 - 3) Align the adapter so that the keys align correctly with the connector on the system board.
 - 4) Insert the adapter into the connector on the system board until it is firmly seated.

Attention: Make sure that the adapter is seated correctly. Incomplete insertion might cause damage to the system board or the adapter.
 - 5) Close the PCIe retention latch.
 - 6) Connect any cables to the adapter, if applicable.
- b. **To install the adapter on the PCIe riser-card assembly**, complete the following steps:
 - 1) Carefully grasp the riser card assembly by the blue touch points and pull it up until the riser card assembly disengages from the connector on the system board.
 - 2) Open the PCIe retention latch.
 - 3) Remove the PCIe filler bracket from the slot in which you want to install the adapter.
 - 4) Align the adapter so that the keys align correctly with the connector on the riser card assembly.
 - 5) Insert the adapter into the connector on the riser card until it is firmly seated.

Attention: Make sure that the adapter is seated correctly. Incomplete insertion might cause damage to the system board, the adapter, and the PCIe riser card assembly.
 - 6) Close the PCIe retention latch.
 - 7) Connect any cables to the adapter, if applicable.
 - 8) Reinstall the riser card assembly onto the system board.
8. Route the signal cables through the SAS cable guide and connect the signal cables to the drive backplane.

Note: Follow the general rule for connecting the SAS signal cables to the adapter and drive backplane: port 0 on the adapter to port 0 on the drive backplane and port 1 on the adapter to port 1 on the drive backplane (depending on the type of drive backplanes you installed in the server).



If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

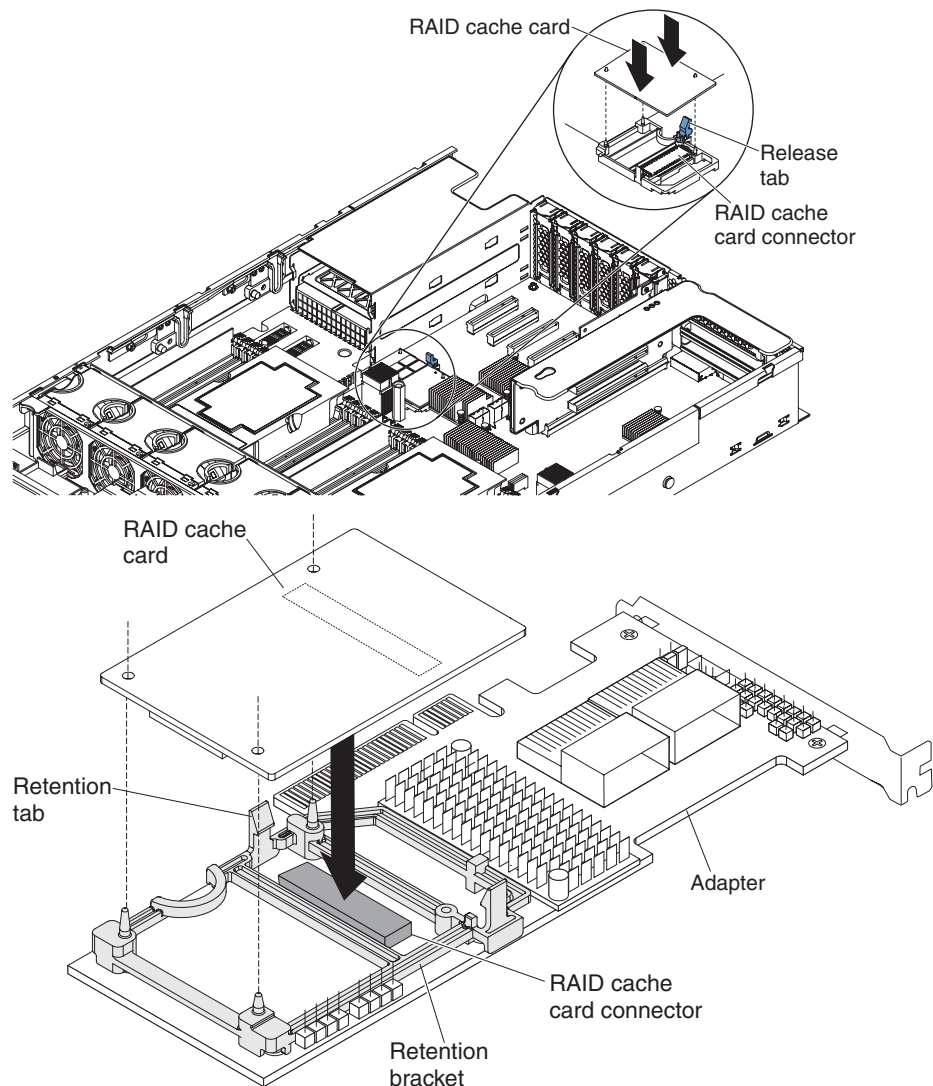
Installing a RAID cache card

The server supports optional RAID cache cards that you can install on the RAID cache card connector on the system board or on the RAID adapters to upgrade to RAID levels 5 and 50 support. See “Supported RAID cache cards” on page 68 for more information about the cache cards and which cache card is supported on the RAID adapters.

To install a RAID cache card, complete the following steps:

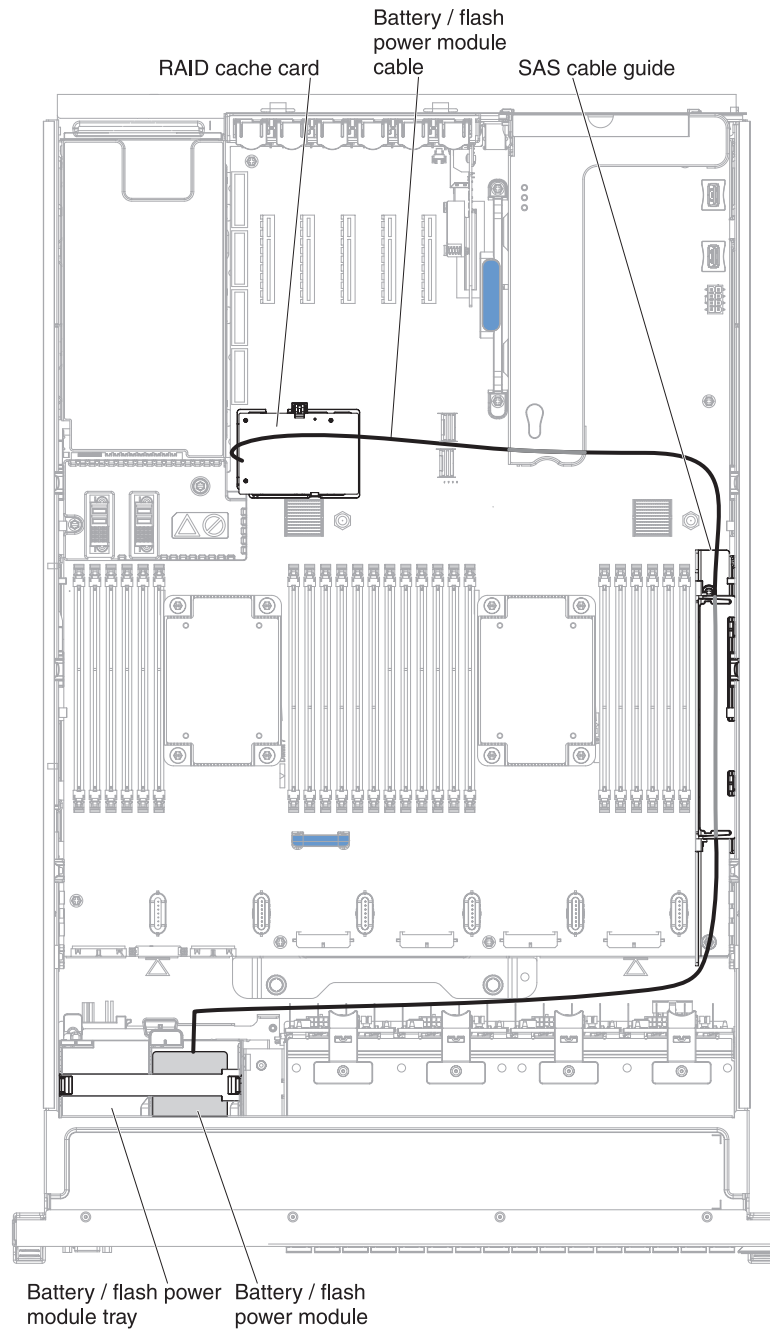
1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).

4. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 237).
5. Remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.
6. Pull the tabs on the SAS cable guide back toward the chassis wall and open the cable guide cover.
7. Make sure that the release tab on the RAID cache card slot is in the open position.
8. Touch the static-protective package that contains the cache card to any unpainted surface on the outside of the server; then, grasp the cache card by the edges and remove it from the package.
9. Connect one end of the battery cable or flash power module cable to the cache card.
10. Align the cache card with the RAID cache card slot on the system board or adapter and lower it onto the connector.



11. Gently press down on the center of the cache card until it clicks into place on the connector and is firmly seated.

12. Route the battery cable or flash power module cable along the side of the chassis and through the SAS cable guide.



13. Press the tray retention clip tab outward to release the retention clip that secures the batteries and flash power modules in the battery/flash power module trays (on the top of the USB/video assembly near the front of the server).

Note: If the RAID cache card is installed in the connector on the system board, place the battery or flash power module in the battery/flash power module tray slot closest to drive bay 0.

14. Place the battery or flash power module into the battery/flash power module tray (install the batteries or flash power modules in the trays starting from top to bottom).

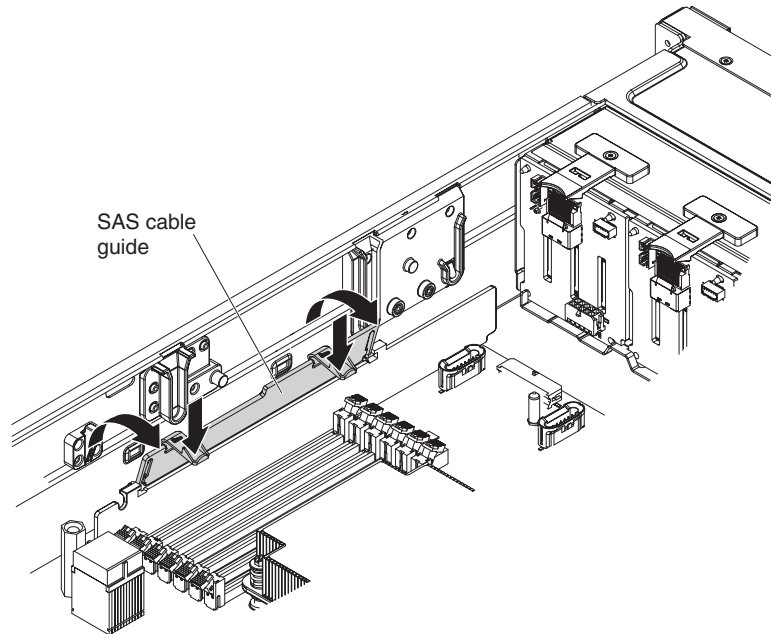
15. Connect the other end of the battery cable or flash power module cable to the battery or flash power module.
16. Reinstall the retention clip to secure the battery or flash power module in place.
17. Close the SAS cable guide cover.

If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

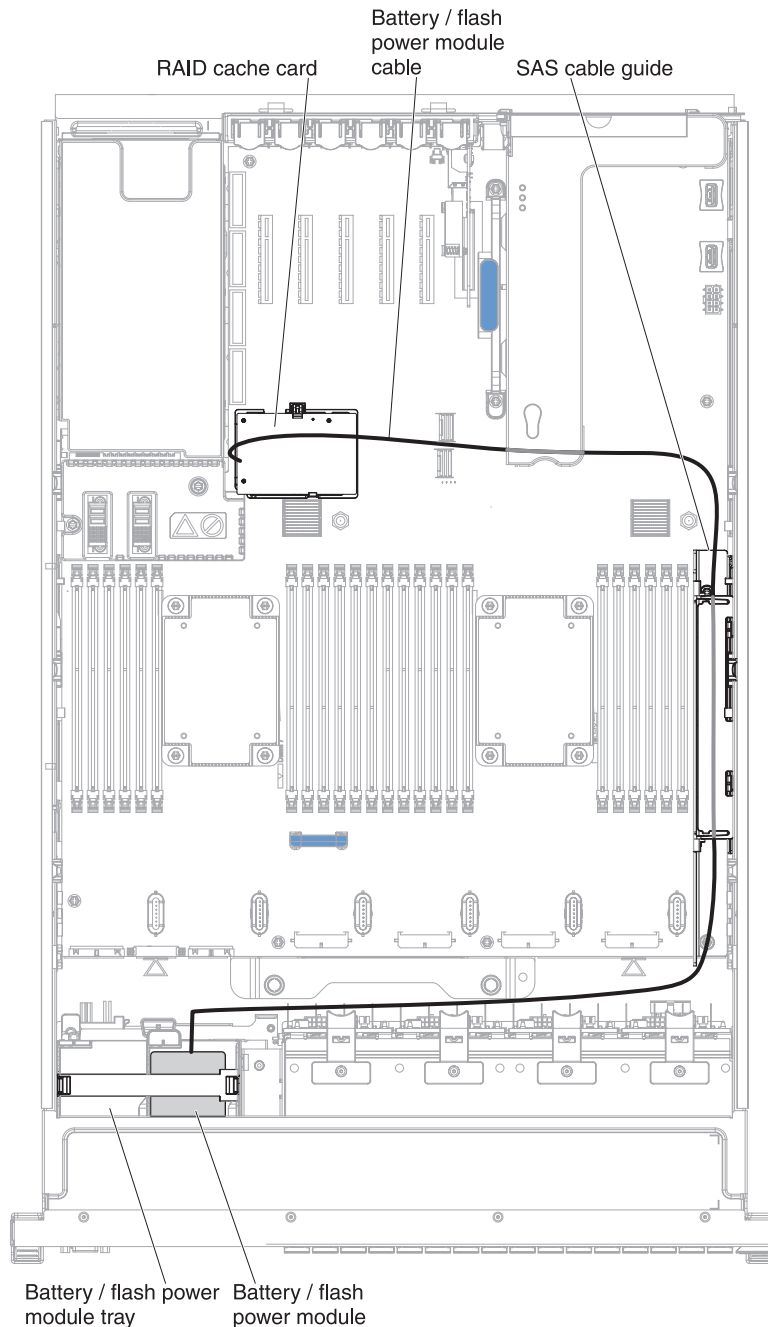
Installing a RAID adapter battery or flash power module

When you install multiple RAID adapters that come with batteries or flash power modules, the batteries or flash power modules must be installed remotely to prevent them from overheating. The batteries and flash power modules must be installed in the battery/flash power module trays that are located on top of the USB/video assembly (in the front of the server). To install a RAID adapter battery or flash power module remotely in the server, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server and peripheral devices and disconnect all power cords and external devices; then, remove the top cover (see “Removing the server top cover” on page 35).
3. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 237).
4. Remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.
5. Connect one end of the battery cable or flash power module cable to the cache card.
6. Open the SAS cable guide cover.



7. Route the battery cable or flash power module cable along the side of the chassis and through the SAS cable guide.



8. Close the SAS cable guide cover.
9. Press the tray retention clip tab outward to release the retention clip that secure the batteries and flash power modules in the battery/flash power module trays (on the top of the USB/video assembly near the front of the server).
10. Place the RAID battery or flash power module into the battery/flash power module tray (install the batteries or flash power modules in the trays starting from top to bottom).

Note: If the RAID cache card is installed in the connector on the system board, place the battery or flash power module in the battery/flash power module tray slot closest to drive bay 0.

11. Connect the other end of the battery cable or flash power module cable to the battery or flash power module.
12. Reinstall the retention clip to secure the battery or flash power module in place.

If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Installing an additional microprocessor and heat sink

The following notes describe the type of microprocessor that the server supports and other information that you must consider when you install a microprocessor and heat sink:

- Be extremely careful. The microprocessor socket contacts are very fragile.
- The server base system board supports two microprocessors, and the optional microprocessor and memory expansion tray provides two additional microprocessor slots plus 24 additional DIMM connectors. The server supports up to four Intel Xeon four-core, six-core, or eight-core microprocessors (depending on your model) with the microprocessor and memory expansion tray installed. To confirm that the server supports the microprocessor, see <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/> for a list of supported microprocessors.
- A microprocessor air baffle must be installed whenever the two DIMM connectors closest to the microprocessor (on the left and the right) are empty. For example, when DIMM connectors 6 and 7 on the system board are empty, a microprocessor air baffle must be installed on microprocessor 1. This is applicable for all microprocessors.
- Microprocessors 3 and 4 must be installed as a pair on the optional microprocessor and memory expansion tray.

Note: The server does not support a configuration of three microprocessors. You must install one, two, or four microprocessors in the server.

- Do not mix four-core, six-core, and eight-core microprocessors in the same server.
- The microprocessor options that IBM supports are limited by the capacity and capability of the server. Any additional microprocessor that you install must have the same specifications as the microprocessors that came with the server.
- You must always have a microprocessor in socket 1 on the system board.
- When one microprocessor is installed, the microprocessor air baffle, the DIMM air baffle, or the microprocessor and memory expansion tray must be installed to provide proper system cooling.
- When you install an additional microprocessor, you must also install additional memory. See “Non-mirroring (independent mode)” on page 43, “Memory mirroring” on page 43, and “Memory sparing” on page 45 for details about DIMM installation sequence.
- To ensure proper server operation when you install an additional microprocessor, use microprocessors that have the same QuickPath Interconnect (QPI) link speed, integrated memory controller frequency, core frequency, power segment, internal cache size, and type.
- Installing microprocessors of different stepping levels within the same server is supported.

- When you install microprocessors with different stepping levels within the same server , you do not have to install the microprocessor with the lowest stepping level and features in microprocessor socket 1.
- The components in the server dictate the number of microprocessors that you must install to support the components. Failure to adhere to the following information will affect the system performance and functionality:

Table 19. The components supported by each microprocessor

Number of microprocessors	Components the server can support with the that number of microprocessor(s) installed
Microprocessor 1	Onboard LSI SAS controller Onboard Emulex Ethernet controller PCIe slots 6, 7, and 8
Microprocessor 2	PCIe slots 1, 2, 3, 4, and 5
Microprocessor 3 and 4 (these must be installed as a pair)	A fully-populated server

- The server supports microprocessor failover support. For example, if two microprocessors are installed and microprocessor 1 fails, the server will switch to microprocessor 2 until the server is serviced. To ensure that the microprocessor failover support works correctly, do the following:
 - Make sure that microprocessor 1 and microprocessor 2 have valid boot devices and paths. That is, an Ethernet controller or a SAS controller must be installed in slots 1, 2, 3, 4, or 5 to boot from microprocessor 2.
 - Make sure that the boot order in the Setup utility is set up so that both microprocessor 1 and microprocessor 2 boot devices are in the boot order.
- The microprocessor voltage regulator modules are integrated on the system board and the microprocessor and memory expansion tray.
- If you have to replace a microprocessor, you must call for service.
- Read the documentation that comes with the microprocessor, so that you can determine whether you have to update the server firmware. To download the latest level of the server firmware and other code updates for your server, go to <http://www.ibm.com/supportportal/>.
- If the thermal-grease protective cover (for example, a plastic cap or tape liner) is removed from the heat sink, do not touch the thermal grease on the bottom of the heat sink or set down the heat sink. For more information, see “Thermal grease” on page 90.

Note: Removing the heat sink from the microprocessor destroys the even distribution of the thermal grease and requires replacing the thermal grease.

- To order an additional optional microprocessor, contact your IBM marketing representative or authorized reseller.
- When you order a microprocessor option kit, it comes with a microprocessor installation tool that you must use to install the microprocessor. The microprocessor installation tool comes with the microprocessor and a protective cover on the bottom of the microprocessor tool.
- The following table shows the DIMM connectors on the system board and the microprocessor and memory expansion tray that are associated with each microprocessor.

Table 20. DIMM connectors associated with each microprocessor

Microprocessor	Location	DIMM connectors associated with the microprocessor
Microprocessor 1	System board	1 through 12
Microprocessor 2	System board	13 through 24
Microprocessor 3	Microprocessor and memory expansion tray	25 through 36
Microprocessor 4	Microprocessor and memory expansion tray	37 through 48

Note: DIMMs 1 through 12 are solely associated with microprocessor 1. Microprocessor 2 has access to DIMMs 1 through 12, but access is through microprocessor 1. This is important if load balancing is a necessity for your operating system or software load.

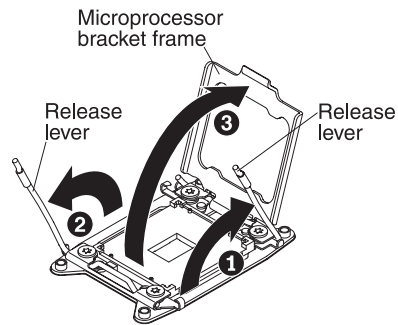
To install an additional microprocessor and heat sink, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
Attention: When you handle static-sensitive devices, take precautions to avoid damage from static electricity. For details about handling these devices, see “Handling static-sensitive devices” on page 35.
3. Remove the server top cover (see “Removing the server top cover” on page 35).
4. If a power supply is installed in bay 2, slide power supply 2 out of the bay slightly.
5. Remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.

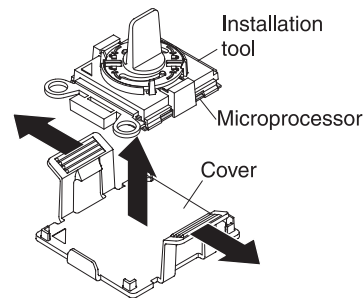
Note: You only need to remove the DIMM air baffle or microprocessor and memory expansion tray if you are installing a microprocessor in socket 2.

6. Locate microprocessor socket 2 on the system board.
7. Remove the microprocessor air baffle (see “Removing the microprocessor air baffle” on page 38).
8. Install the microprocessor:
 - a. Locate the two release levers on microprocessor socket 2. Press the release lever on the right down and inward toward the socket and lift it up to the fully open position; then, press the release lever on the left down and inward toward the socket and lift it up to the fully open position.
 - b. Lift the microprocessor bracket frame by the tab into the open position.

Attention: When you handle static-sensitive devices, take precautions to avoid damage from static electricity. For details about handling these devices, see “Handling static-sensitive devices” on page 35.

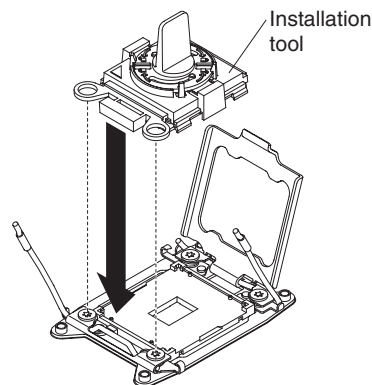


- c. Remove the plastic clamshell packaging that contains the new microprocessor.
- d. Carefully remove the microprocessor and installation tool from the package.
- e. Release the sides of the microprocessor protective cover on the bottom of the microprocessor and carefully remove the cover from the installation tool. The microprocessor is preinstalled on the installation tool.



Attention: Do not touch the microprocessor socket contacts. Contaminants on the microprocessor contacts, such as oil from your skin, can cause connection failures between the contacts and the socket.

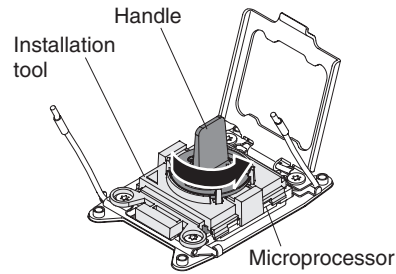
- f. Carefully align the microprocessor installation tool over the microprocessor socket. The microprocessor is keyed to ensure that the microprocessor is installed correctly.



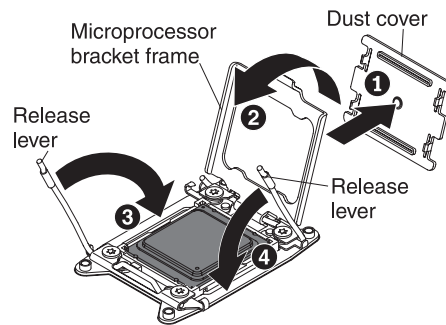
- g. Twist the handle on the microprocessor tool counterclockwise to insert the microprocessor into the socket. The microprocessor rests flush on the socket only if it is properly installed.

Note:

- Do not press the microprocessor into the socket.
- Make sure that the microprocessor is oriented and aligned correctly in the socket before you close the microprocessor bracket frame.



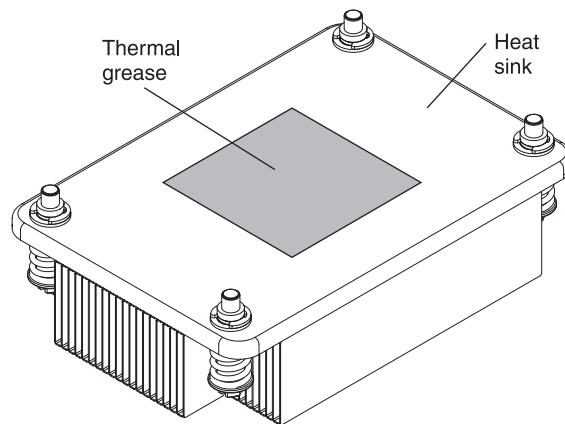
- h. Remove the microprocessor installation tool.
- i. If a microprocessor socket cover is installed over the microprocessor bracket frame, remove it and store the socket dust cover in a safe place.
- j. Carefully close the microprocessor release levers to the closed position to secure the microprocessor in the socket. Make sure that you close the release lever on the left first; then, close the release lever on the right



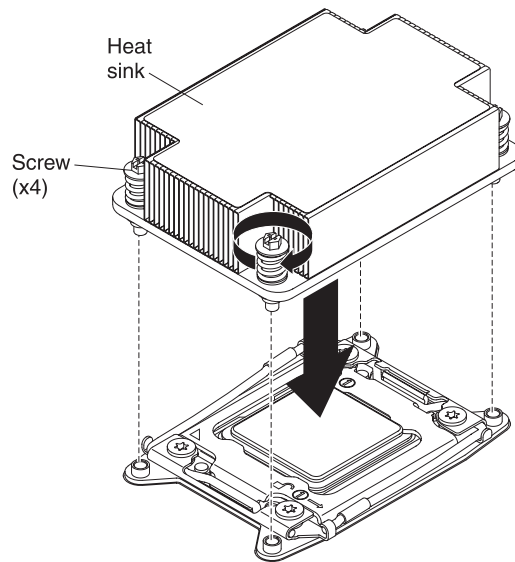
9. Install the heat sink that came with the microprocessor:

- a. Remove the plastic protective cover from the bottom of the heat sink.

Attention: Do not touch the thermal grease on the bottom of the heat sink after you remove the plastic cover. Touching the thermal grease will contaminate it. See "Thermal grease" on page 90 for more information.



- b. Align the heat sink on the top of the microprocessor with the thermal grease side down.
- c. Align the captive screws on the heat sink with the holes on the heat-sink retention module.



- d. Press down on the center of the heat sink, and then press firmly on the captive screws and tighten them, alternating between the screws in a figure-8 pattern as illustrated on the heat sink label until they are tightened. You can cause damage to the microprocessor if you tighten the screws on one side first, rather than rotating. Rotate each screw one full rotation at a time. Repeat this process until the screws are tightened.
10. Reinstall the microprocessor air baffle (see "Replacing the microprocessor air baffle" on page 116).

Note: A microprocessor air baffle must be installed whenever the DIMM connectors closest to the microprocessor (on the left and the right) are empty. For example, when DIMM connectors 6 and 7 on the system board are empty, a microprocessor air baffle must be installed on microprocessor 1. This is applicable for all microprocessors.

11. Reinstall the DIMM air baffle (see "Replacing the DIMM air baffle" on page 116).
12. Reconnect any cables that you disconnected.

If you have other devices to install, do so now. Otherwise, go to "Completing the installation" on page 115.

Thermal grease

The thermal grease must be replaced whenever the heat sink has been removed from the top of the microprocessor and is going to be reused or when debris is found in the grease. For information on the part number to order the thermal grease, see "Replaceable server components" on page 189.

When you are installing the heat sink on the same microprocessor that it was removed from, make sure that the following requirements are met:

- The thermal grease on the heat sink and microprocessor is not contaminated.
- Additional thermal grease is not added to the existing thermal grease on the heat sink and microprocessor.

Note:

- Read the Safety information on page "Safety" on page vii.
- Read the "Installation guidelines" on page 33.

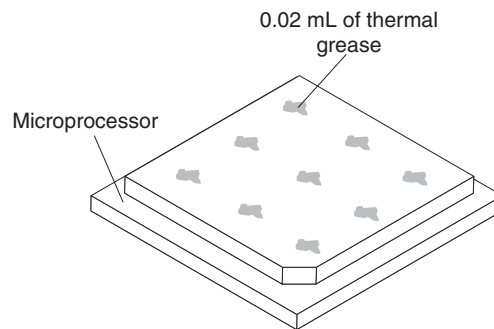
- Read “Handling static-sensitive devices” on page 35.

To replace damaged or contaminated thermal grease on the microprocessor and heat sink, complete the following steps:

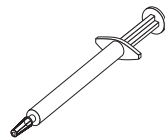
1. Place the heat sink on a clean work surface.
2. Remove the cleaning pad from its package and unfold it completely.
3. Use the cleaning pad to wipe the thermal grease from the bottom of the heat sink.

Note: Make sure that all of the thermal grease is removed.

4. Use a clean area of the cleaning pad to wipe the thermal grease from the microprocessor; then, dispose of the cleaning pad after all of the thermal grease is removed.



5. Use the thermal-grease syringe to place 9 uniformly spaced dots of 0.02 mL each on the top of the microprocessor. The outermost dots must be within approximately 5 mm of the edge of the microprocessor; this is to ensure uniform distribution of the grease.



Note: If the grease is properly applied, approximately half of the grease will remain in the syringe.

6. Install the heat sink onto the microprocessor as described in 9 on page 89.

Installing a 1400-watt or 900-watt hot-swap power supply

The following notes describe the type of power supply that the server supports and other information that you must consider when you install a hot-swap power supply:

- To confirm that the server supports the power supply that you are installing, see <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/>.
- The server comes standard with one 900-watt (input voltage 110 or 220 V ac auto-sensing) hot-swap power supply or one 1400-watt hot-swap power supply (input voltage 110 or 220 V ac auto-sensing) depending on your model.

Note: Do not mix 110 V ac and 220 V ac input voltage power supplies in the server. It is not supported.

- Do not mix 900-watt and 1400-watt power supplies in the server. It is not supported.

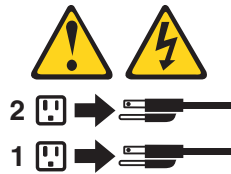
- These power supplies are designed for parallel operation. In the event of a power-supply failure, the redundant power supply continues to power the system. The server supports a maximum of two power supplies.
- Full N+N redundancy support is provided by two 1400-watt power supplies fed from a 220 V input source.
- Limited N+N redundancy support is provided by two 900-watt power supplies fed from either a 110 V or 220 V input source, or by two 1400-watt power supplies fed from a 110 V source.
- For the server to support two power supplies, you must install the optional IBM Power Interposer for Redundant Power option or the optional IBM Microprocessor and Memory Expansion Tray, if one is not installed in your model.

Statement 5



CAUTION:

The power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.



Statement 8



CAUTION:

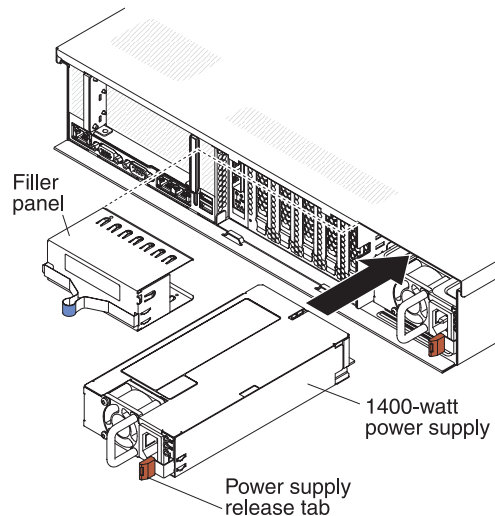
Never remove the cover on a power supply or any part that has the following label attached.



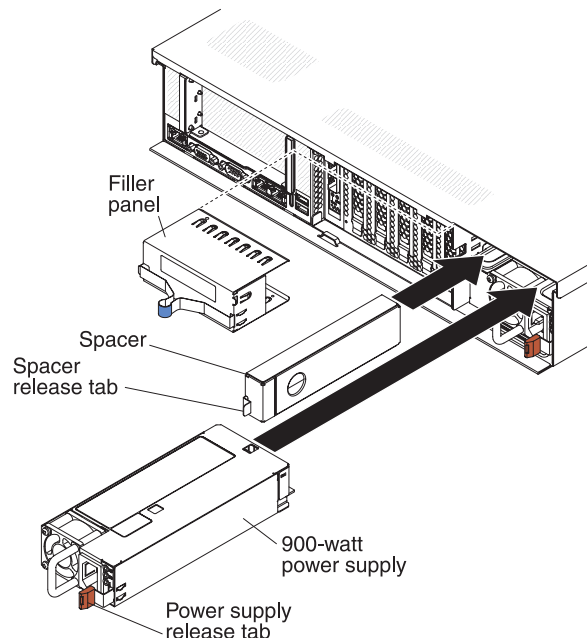
Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a with one of these parts, contact a service technician.

To install a hot-swap power supply, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Touch the static-protective package that contains the power supply to any unpainted metal surface on the server; then, remove the power supply from the package and place it on a static-protective surface.
3. If you are installing the power supply into an empty bay, remove the power-supply filler panel from the power-supply bay.
4. Use one of the following procedures to install the power supply.
 - a. **To install a 1400-watt power supply**, complete the following steps:
 - 1) Grasp the handle on the rear of the power supply and slide the power supply forward into the power-supply bay until it clicks. Make sure that the power supply connects firmly into the power-supply connector.



- b. **To install a 900-watt power supply**, complete the following steps:
 - 1) Insert the power-supply spacer into the left side (against the bay wall) of the power-supply bay and slide it in until it snaps into place on the tabs on the side of the bay.



- 2) Grasp the handle on the rear of the power supply and slide the power supply forward into the power-supply bay (next to the spacer) until it clicks. Make sure that the power supply connects firmly into the power-supply connector
5. Route the power cord through the cable hook-and-loop on the rear of the server so that it does not accidentally become unplugged.
6. Connect the power cord for the new power supply to the power-cord connector on the power supply.
7. Connect the other end of the power cord to a properly grounded electrical outlet.
8. Make sure that the ac power LED on the power supply is lit, indicating that sufficient power is being supplied to the power supply through the power cord. During normal operation, both the ac and the dc power LEDs are lit. For any other combination of LEDs, see "Power-supply LEDs" on page 156. Make sure that no error LEDs are lit.
9. Restart the server. Confirm that it starts correctly and recognizes the newly installed device, and make sure that no error LEDs are lit.

Installing a 750-watt -48 volt to -60 volt dc power supply

The following notes provides information that you must consider when you install a 750-watt -48 V to -60 V dc power supply. To confirm that the server supports the power supply that you are installing, see <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/>.

Attention:

- Only trained service technicians, other than IBM service technicians, are authorized to install and remove the 750-watt -48 V to -60 V dc power supply, and make connections to or disconnections from the 750-watt -48 V to -60 V dc power source.
- IBM service technicians are not certified or authorized to install or remove the 750-watt -48 V to -60 V dc power cable. You are responsible for ensuring that only a trained service technician install or remove the 750-watt -48 V to -60 V dc power cable.
- You can install up to two dc power supplies or two ac power supplies in the server, but you cannot mix dc and ac power supplies in the same server.
- To reduce the risk of electric shock or energy hazards when installing the 750-watt -48 V to -60 V dc power supplies, take the following steps:
 - Use a circuit breaker that is rated 40 amps.
 - Use 4 mm² (10 AWG) at 60° C copper wire.
 - Cut the power cable wires to the correct length, but do not cut the wires shorter than 150 mm (6 inches).
 - Torque the wiring-terminal screws to 0.50 ~ 0.60 newton-meters (4.43 ~ 5.31 inch-pounds).
- For the server to support two power supplies, you must install the optional IBM Power Interposer for Redundant Power option or the optional IBM Microprocessor and Memory Expansion Tray, if one is not installed in your model.

Statement 8



CAUTION:

Never remove the cover on a power supply or any part that has the following label attached.



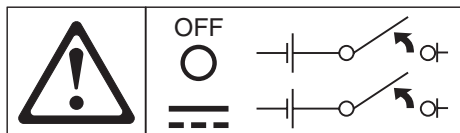
Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

Statement 19:



CAUTION:

The power-control button on the device does not turn off the electrical current supplied to the device. The device also might have more than one connection to dc power. To remove all electrical current from the device, ensure that all connections to dc power are disconnected at the dc power input terminals.



Statement 31:



DANGER

Electrical current from power, telephone, and communication cables is hazardous.

To avoid a shock hazard:

- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- Connect all power cords to a properly wired and grounded power source.
- Connect to properly wired power sources any equipment that will be attached to this product.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached ac power cords, dc power sources, network connections, telecommunications systems, and serial cables before you open the device covers, unless you are instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following table when you install, move, or open covers on this product or attached devices.

To Connect:

1. Turn OFF all power sources and equipment that is to be attached to this product.
2. Attach signal cables to the product.
3. Attach power cords to the product.
 - For ac systems, use appliance inlets.
 - For dc systems, ensure correct polarity of -48 V dc connections: RTN is + and -48 V dc is -. Earth ground should use a two-hole lug for safety.
4. Attach signal cables to other devices.
5. Connect power cords to their sources.
6. Turn ON all the power sources.

To Disconnect:

1. Turn OFF all power sources and equipment that is to be attached to this product.
 - For ac systems, remove all power cords from the chassis power receptacles for interrupt power at the ac power distribution unit.
 - For dc systems, disconnect dc power sources at the breaker panel or by turning off the power source. Then, remove the dc cables.
2. Remove the signal cables from the connectors.
3. Remove all cables from the devices.

Statement 34:



CAUTION:

To reduce the risk of electric shock or energy hazards:

- This equipment must be installed by trained service personnel in a restricted-access location, as defined by the NEC and IEC 60950-1, First Edition, The Standard for Safety of Information Technology Equipment.
- Connect the equipment to a properly grounded safety extra low voltage (SELV) source. A SELV source is a secondary circuit that is designed so that normal and single fault conditions do not cause the voltages to exceed a safe level (60 V direct current).
- Incorporate a readily available approved and rated disconnect device in the field wiring.
- See the specifications in the product documentation for the required circuit-breaker rating for branch circuit overcurrent protection.
- Use copper wire conductors only. See the specifications in the product documentation for the required wire size.
- See the specifications in the product documentation for the required torque values for the wiring-terminal screws.

To install a 750-watt -48 V to -60 V dc power supply, complete the following steps:

Note: Only trained service technicians, other than IBM service technicians, are authorized to install and remove the 750-watt -48 V to -60 V dc power supply, and make connections to or disconnections from the 750-watt -48 V to -60 V dc power source. IBM service technicians are not certified or authorized to install or remove the 750-watt -48 V to -60 V dc power cable. You are responsible for ensuring that only a trained service technician install or remove the 750-watt -48 V to -60 V dc power cable.

1. Read the notes at the beginning of this section and read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.

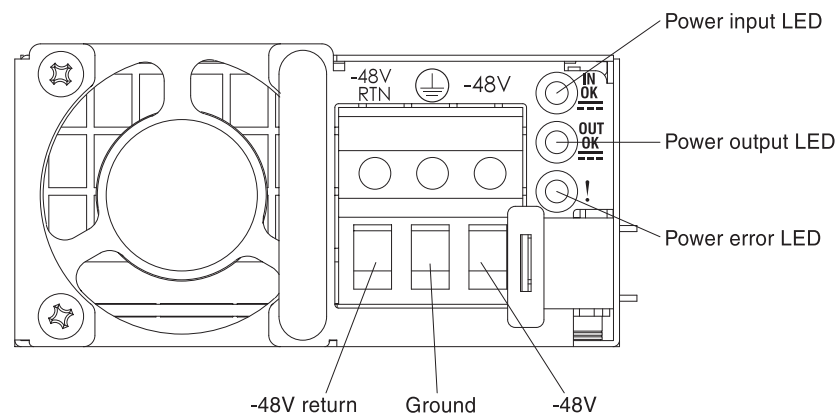
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all external cables from the server.

Attention: When you handle static-sensitive devices, take precautions to avoid damage from static electricity. For details about handling these devices, see “Handling static-sensitive devices” on page 35.

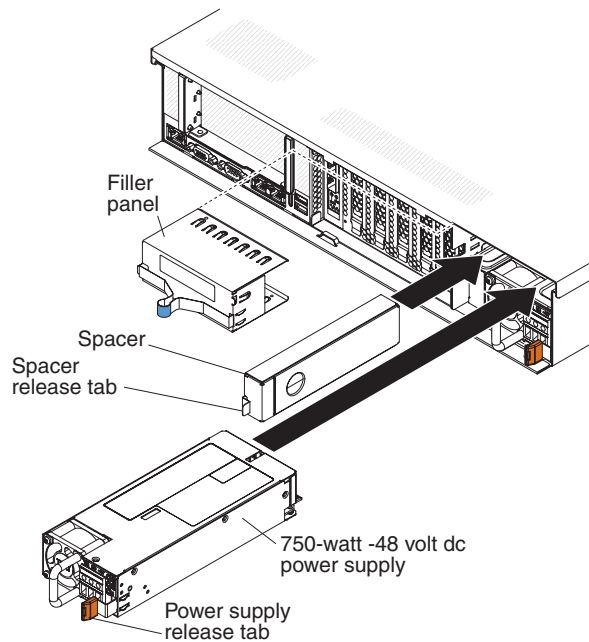
3. Turn off the circuit breaker(s) for the dc power supplies.

Note: Make sure that you use a circuit breaker that is rated 40 amps.

4. Remove the power-supply filler panel from the power-supply bay where you are installing the power supply. Save the filler for later use.
5. Touch the static-protective package that contains the power supply to any unpainted metal surface on the server; then, remove the power supply from the package and place it on a static-protective surface.
6. Attach the dc power cable to the new power supply. Make sure that the power cable wires are connected securely to the -48 V, ground, and to the -48 V return terminals (as shown in the following illustration). Make sure that:
 - a. You use 4 mm² (10 AWG) at 60° C copper wire.
 - b. Cut the power cable wires to the correct length, but do not cut the wires shorter than 150 mm (6 inches).
 - c. Torque the wiring-terminal screws to 0.50 ~ 0.60 newton-meters (4.43 ~ 5.31 inch-pounds).

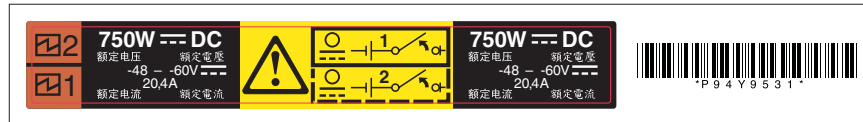


7. Insert the power-supply spacer into the left side of the power-supply bay (against the bay wall) and slide it in until it snaps into place on the tabs on the side of the power supply bay.



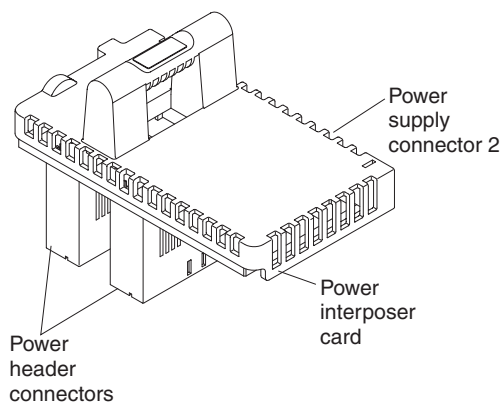
8. Grasp the handle on the rear of the power supply and slide the power supply into the bay until it clicks into place and is seated firmly into the connector.
9. Connect the other ends of the dc power cable to the dc power source.

Note: When you install the second power supply, place the following power rating label that comes with the power supply option on the rear of the server.



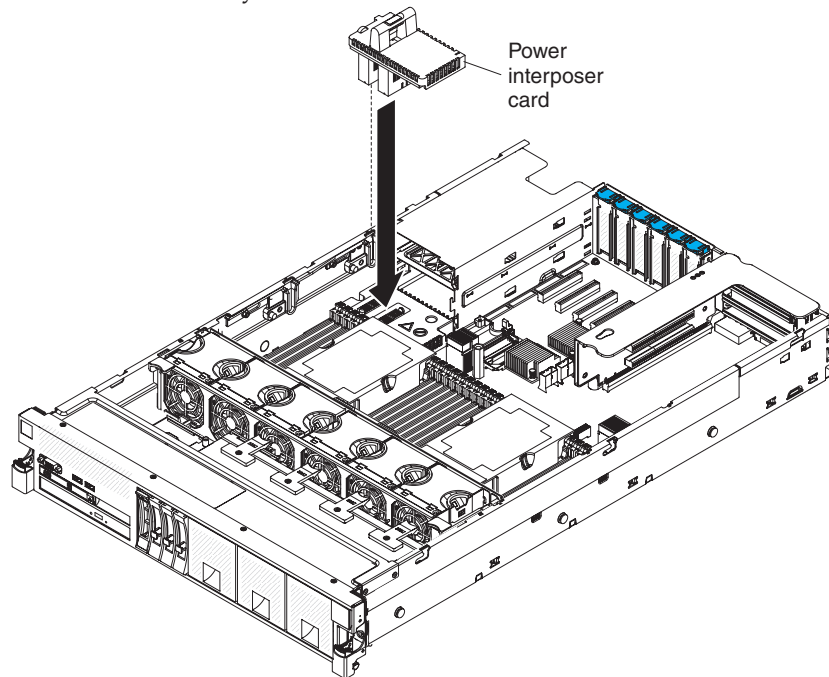
10. Turn on the circuit breaker(s) for the dc power supplies.
11. Route the power cable through the cable hook-and-loop on the rear of the server so that it does not accidentally become unplugged.
12. Reconnect all of the cables to the peripheral devices.
13. Restart the server. Make sure that it starts correctly and recognizes the newly installed device, and make sure that no error LEDs are lit.

Installing the power interposer for redundant power supply card assembly



The IBM Power Interposer for Redundant Power Supply option enables redundant power support when no microprocessor and memory expansion tray is installed. To install the optional power interposer card assembly, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. Align the power connectors on the power interposer card so that they are aligned with the power interposer card connectors on the system board; then, press down on the power interposer card until it is firmly seated in the connectors on the system board.



5. Install the power supply that comes with the power interposer card (see “Installing a 1400-watt or 900-watt hot-swap power supply” on page 91).

If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

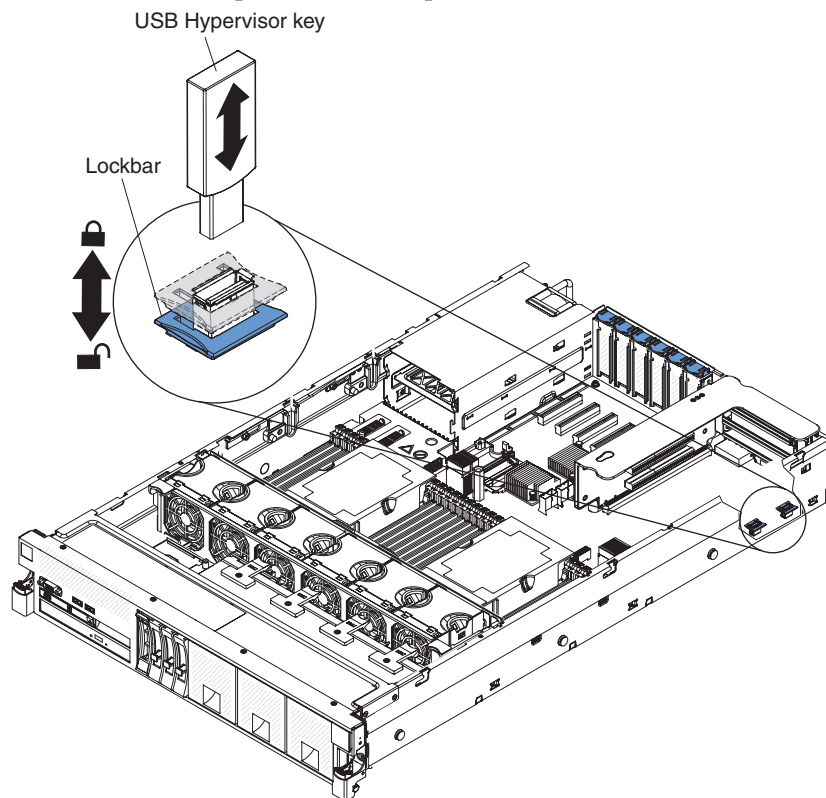
Installing a USB embedded hypervisor flash device

To install a hypervisor flash device, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).

Note: You might have to remove the PCIe riser-card assembly to access the USB (hypervisor) connectors.

4. Locate the USB (hypervisor) connector on the system board in which you want to install the flash device (see “System-board internal connectors” on page 26 for the location of the connectors for the embedded hypervisor USB flash device).
5. Make sure that the lockbar on the USB (hypervisor) connector is in the unlock position (down).
6. Align the USB flash device with the connector on the system board and push it into the connector until it is firmly seated.
7. Slide the lockbar up to the locked position until the lockbar is seated firmly.



If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

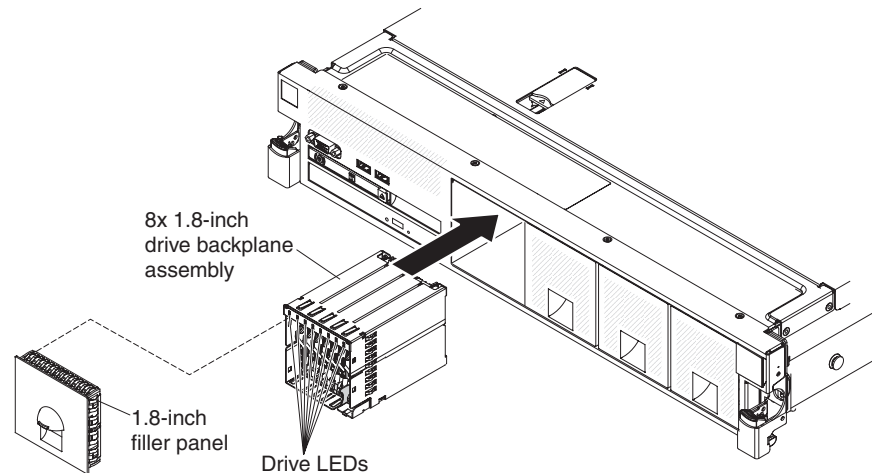
Installing the 8x1.8-inch hot-swap drive backplane assembly

Note:

- For more information about connecting the SAS signal cables to the drive backplane, see “Connecting the SAS cables” on page 60.
- When you install a 8x1.8-inch drive backplane assembly, the drive IDs that are indicated on the server front bezel will no longer be valid. Use the drive labels that come with the backplane to renumber the drive IDs on the bezel.
- The right-angle SAS cables that come with the backplane only connects to the SAS connectors on the system board.
- For more information about drive IDs, see “Drive IDs” on page 51. For more information about the supported drive backplane configurations, see “Supported SAS/SATA drive backplane configurations” on page 52.

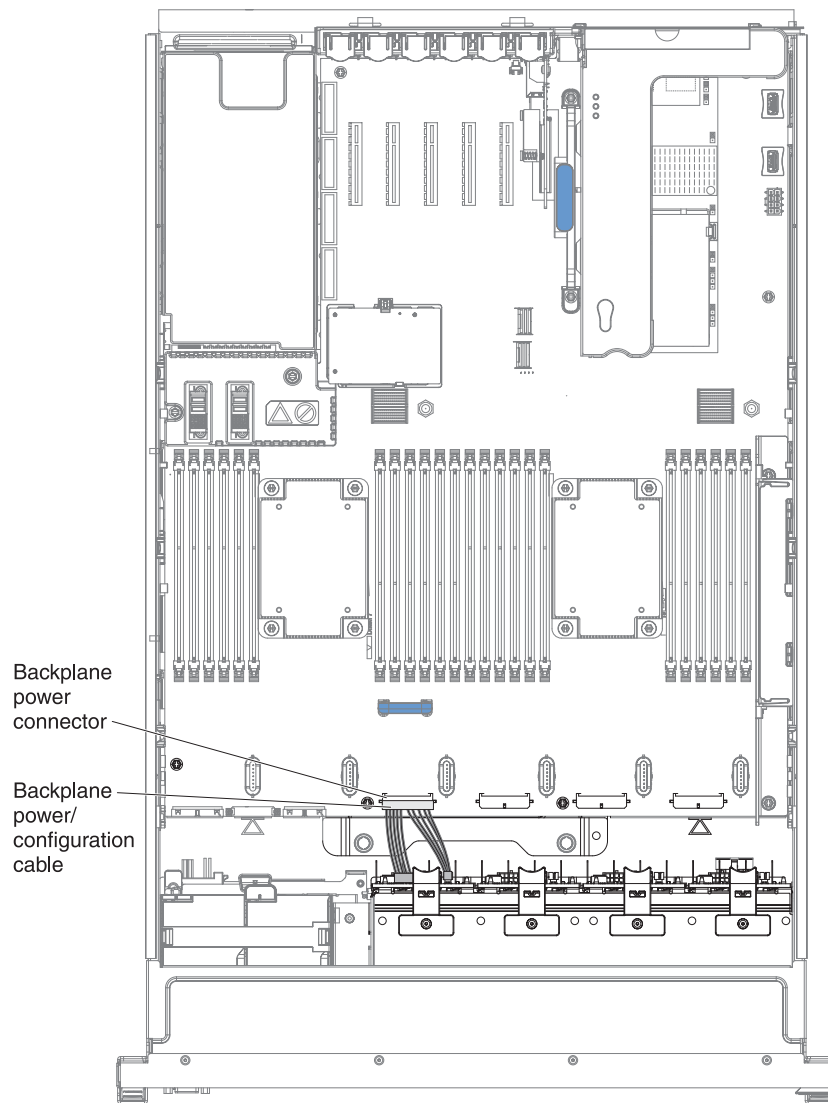
To install the 8x1.8-inch hot-swap drive backplane assembly, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 39).
5. Remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.
6. Open the SAS cable guide cover.
7. Remove the drive bay fillers from the front of the server for the bays that are associated with the backplane bay in which you are installing the backplane.
8. If a backplane filler panel is installed in the backplane bays in which you are installing the backplane assembly, remove the backplane filler panel.
9. Align the backplane assembly with the backplane bay in which you are installing the assembly.

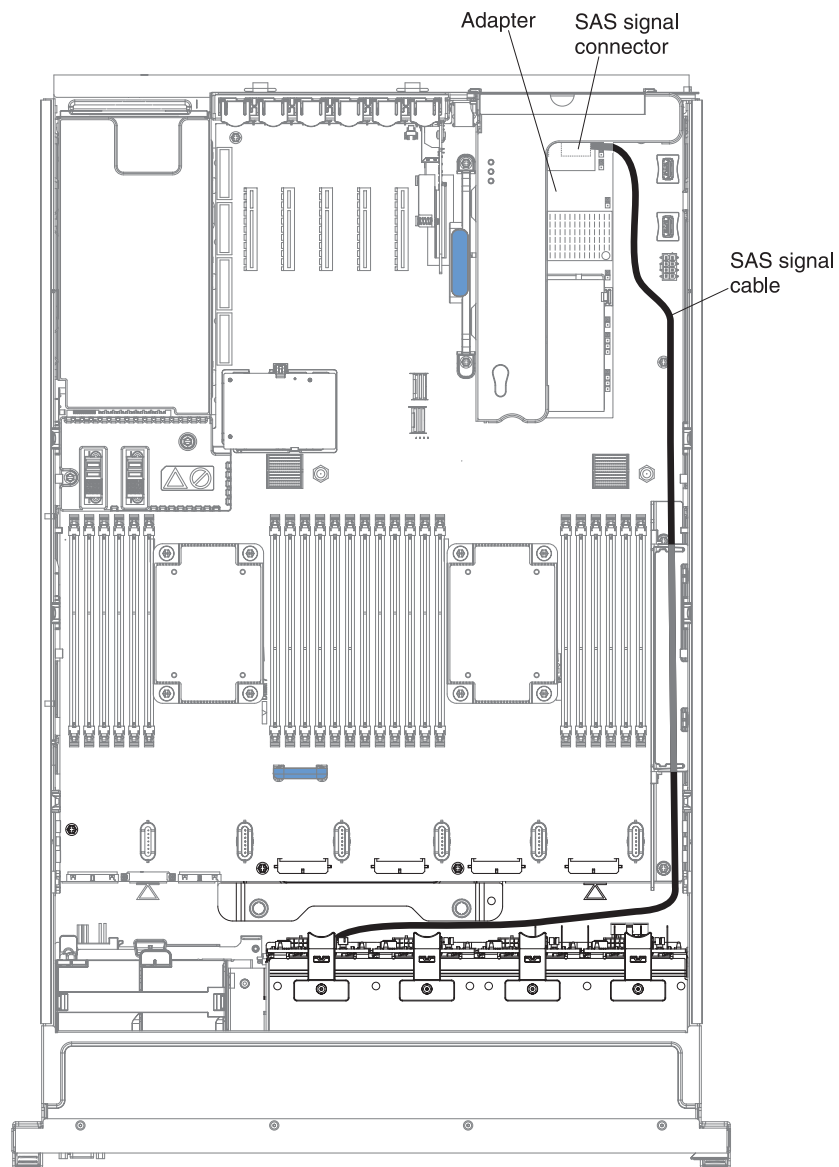


10. Slide the backplane assembly into the backplane bay until it clicks into place.
11. Connect the combination power/configuration cable end to the power and configuration connectors on the backplane assembly; then, connect the power connector on the other end of the cable to the backplane power connector on the system board. See the following cabling illustration.

Note: You can connect the cables to the backplane before you install the backplane onto the cage or you can connect the cables after you install the backplane, if that is easier for you.



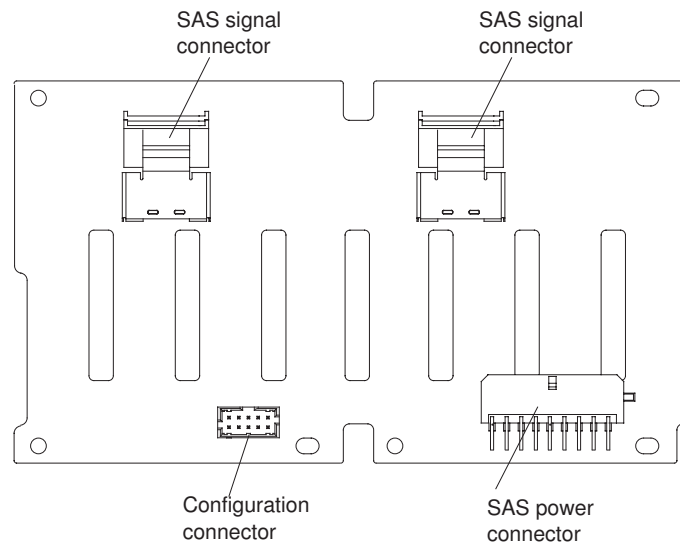
12. Route the signal cables through the SAS cable guide and connect the signal cables to the backplane assembly and to the adapter or the system board.



13. Close the SAS cable guide cover.

If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Installing the 8x2.5-inch hot-swap drive backplane



Note:

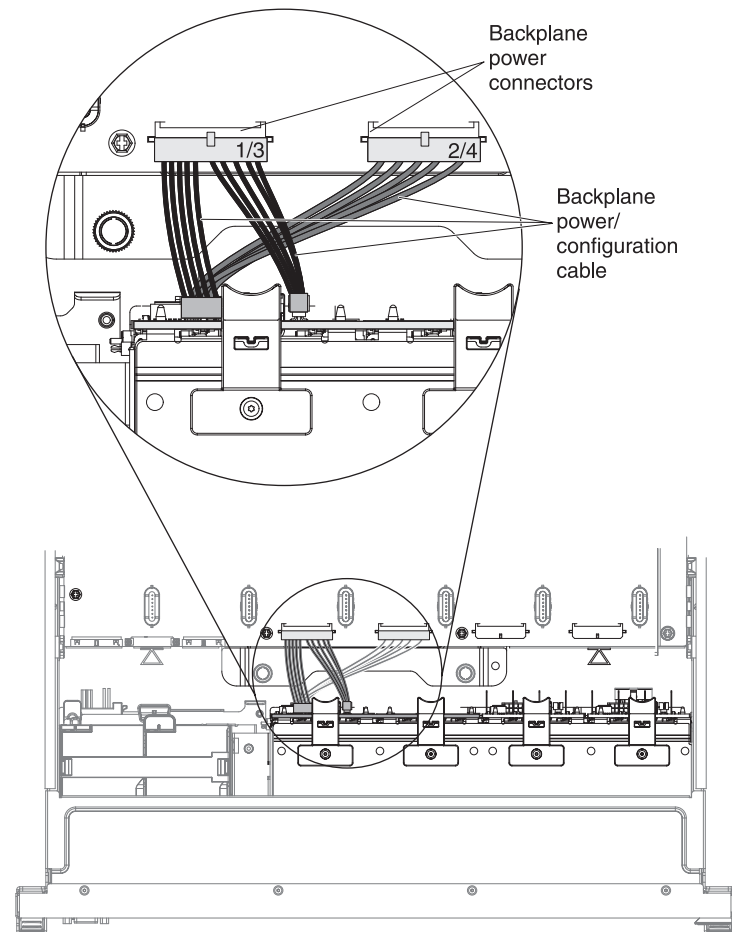
- For more information about connecting the SAS signal cables to the drive backplane, see “Connecting the SAS cables” on page 60).
- You can install this drive backplane in backplane bays 1 and 2 or 3 and 4. It cannot be installed in drive backplane bays 2 and 3. It is not supported.
- The right-angle SAS cables that come with the backplane only connect to the SAS signal connectors on the system board.

To install the 8x2.5-inch hot-swap drive backplane, complete the following steps:

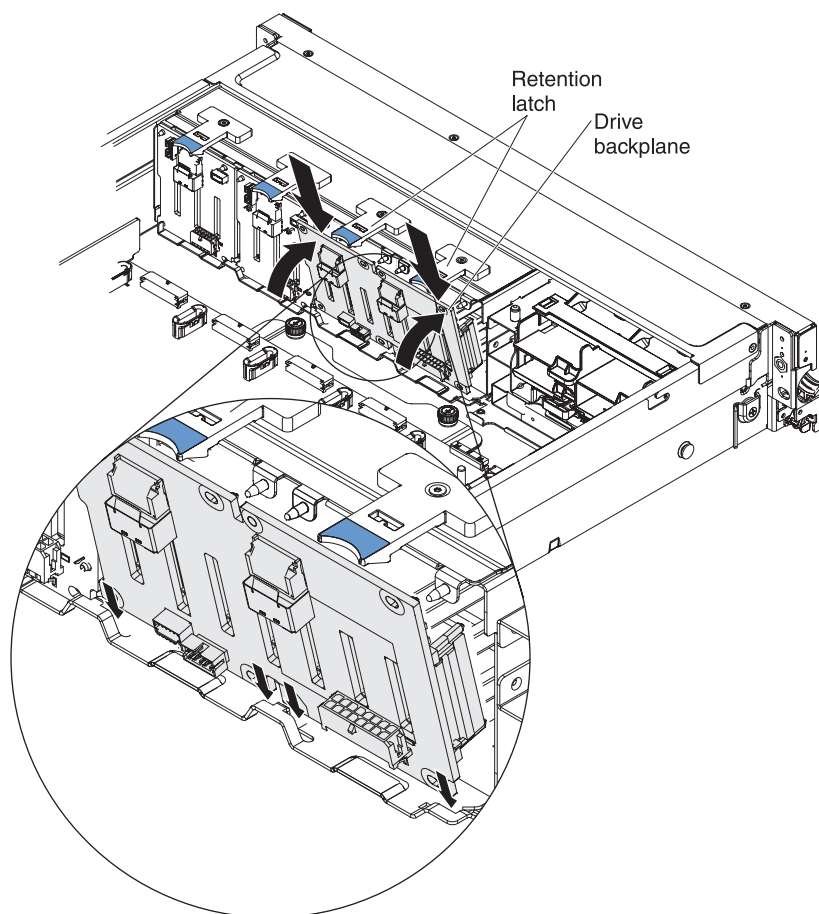
1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 39).
5. Remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.
6. Open the SAS cable guide cover.
7. If a backplane filler panels are installed in the backplane bay in which you are installing the backplane, remove the backplane filler panels.
8. Connect the two 10x2-pin power connectors on the combination power/configuration cable to the backplane power connectors on the system board. The power connector on the end of the black cable (which might be labelled 1/3) connects to backplane connector 1 or 3 on the system board. The power connector on the end of the gray cable (which might be labelled 2/4) connects to backplane connector 2 or 4 on the system board. Connect the configuration connector on the combination power/configuration cable to the

configuration connector on the drive backplane. Connect the other power connector on the combination power/configuration cable to the power connector on the backplane.

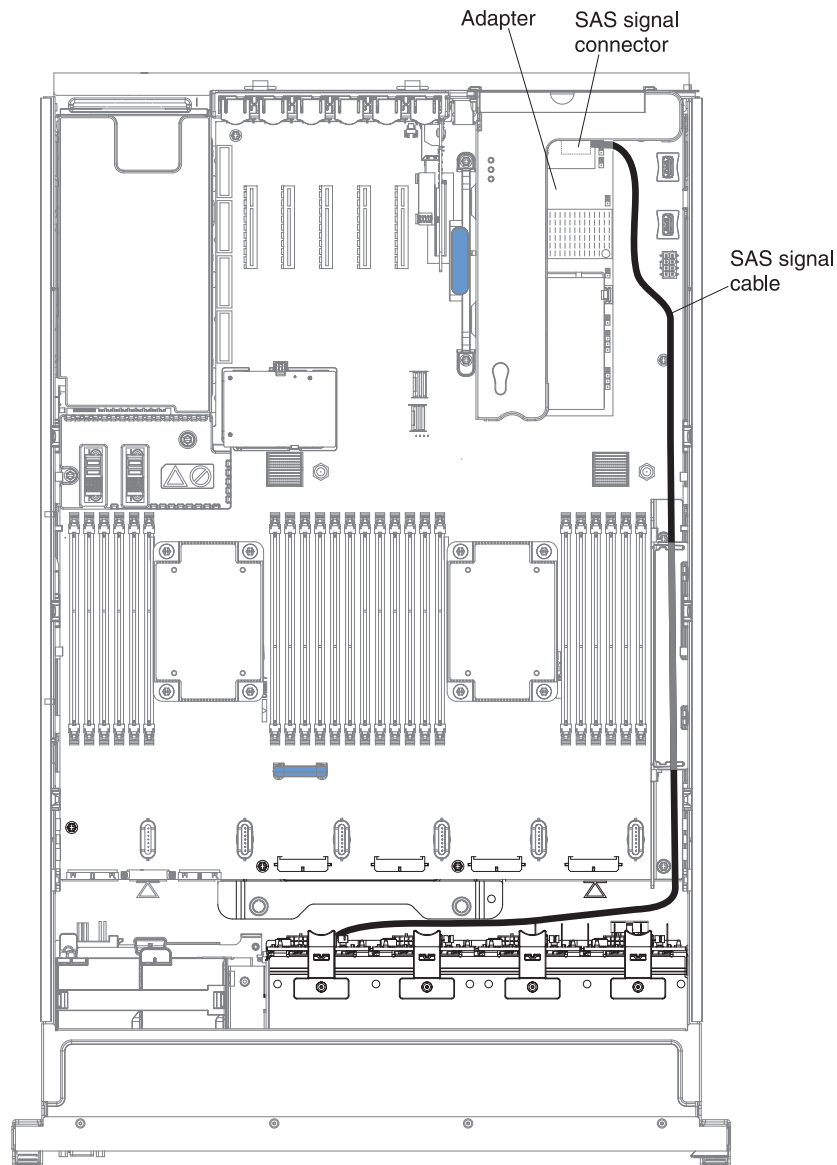
Note: You can connect the cables to the backplane before you install the backplane onto the cage, or you can connect the cables after you install the backplane, if that is easier for you.



9. Insert the backplane tabs into the slots on the bottom of the backplane cage and rotate the backplane assembly forward until the backplane locks in place.



10. Connect the signal cables to the backplane assembly and route the cables through the SAS cable guide; then, connect the other end of the cables to the adapter or the system board.



11. Close the SAS cable guide cover.

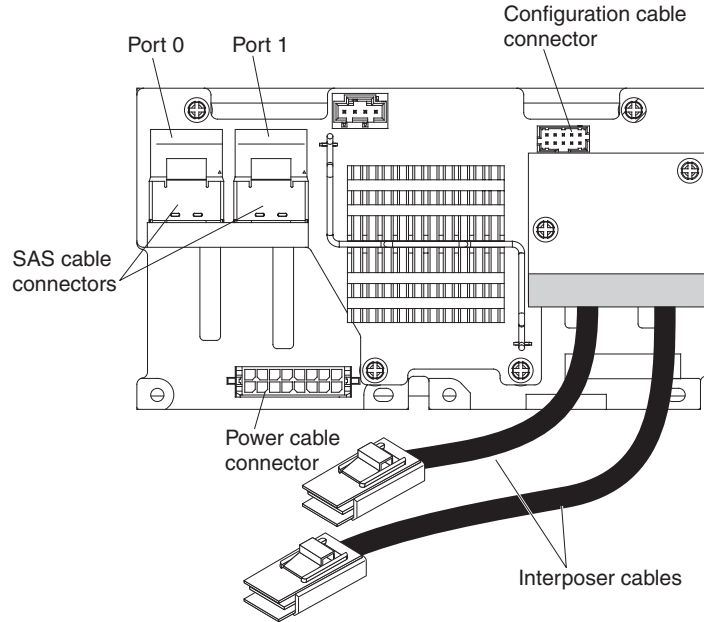
If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Installing the 8x2.5-inch hot-swap drive backplane with controller expander

Note:

- For more information about the connecting the SAS cables to the drive backplane, see “Connecting the SAS cables” on page 60).
- The right-angle SAS cables that come with the backplane only connects to the SAS connectors on the system board.
- When you install this backplane, it attaches to the drive backplane that is next to it in the configuration, using the two interposer cables that come with this backplane. See “Supported SAS/SATA drive backplane configurations” on page 52 for the supported configurations that use this drive backplane.

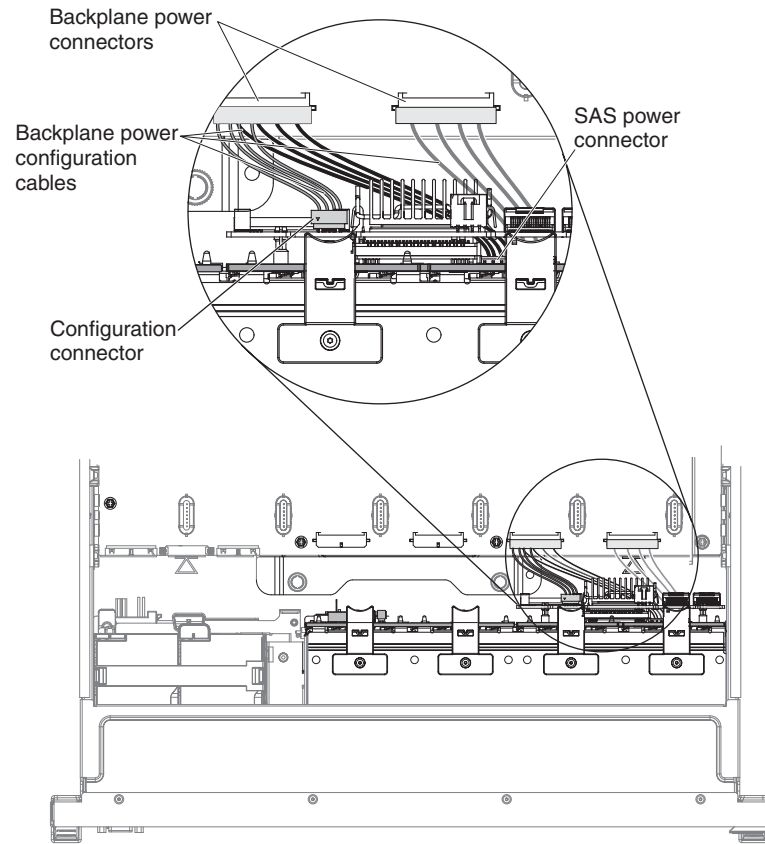
- You can install this backplane in backplane bays 3 and 4 only. It cannot be installed in drive backplane bays 1 and 2. It is not supported.



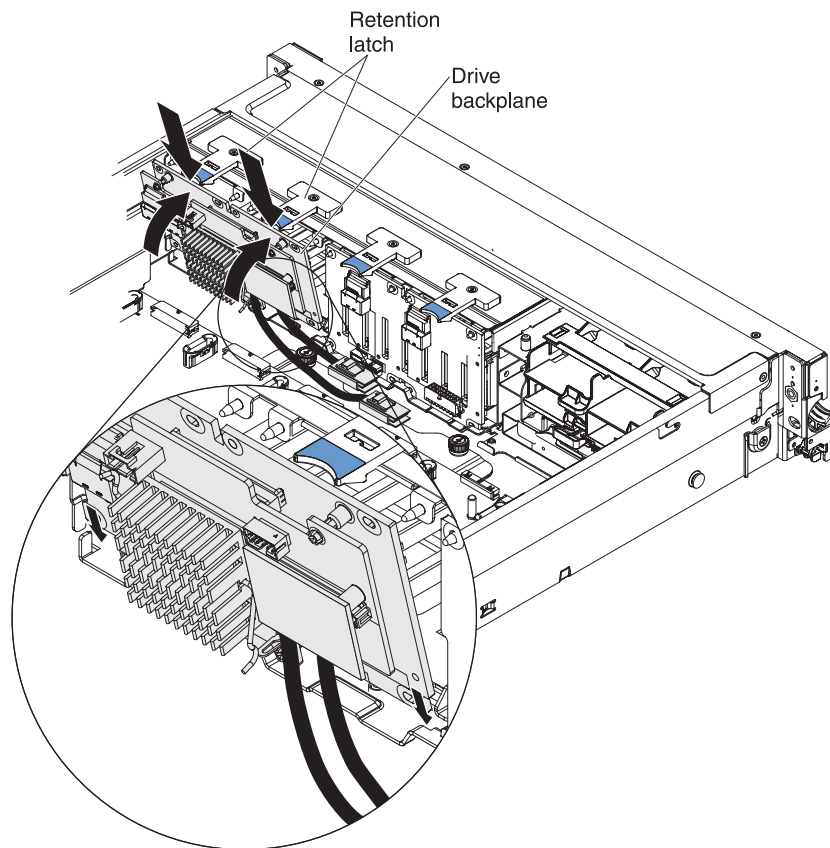
To install the 8x2.5-inch hot-swap drive backplane with controller expander, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 39).
5. Remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.
6. Open the SAS cable guide cover.
7. If backplane filler panels are installed in the backplane bays in which you are installing the backplane, remove the backplane filler panels.
8. Connect the two 10x2-pin power connectors on the combination power/configuration cable to the backplane power connectors on the system board. The power connector on the end of the black cable (which might be labelled 1/3) connects to backplane connectors 3 on the system board. The power connector on the end of the gray cable (which might be labelled 2/4) connects to backplane connectors 4 on the system board. Connect the configuration connector on the combination power/configuration cable to the configuration connector on the backplane. Connect the other power connector on the combination power/configuration cable to the power connector on the backplane.

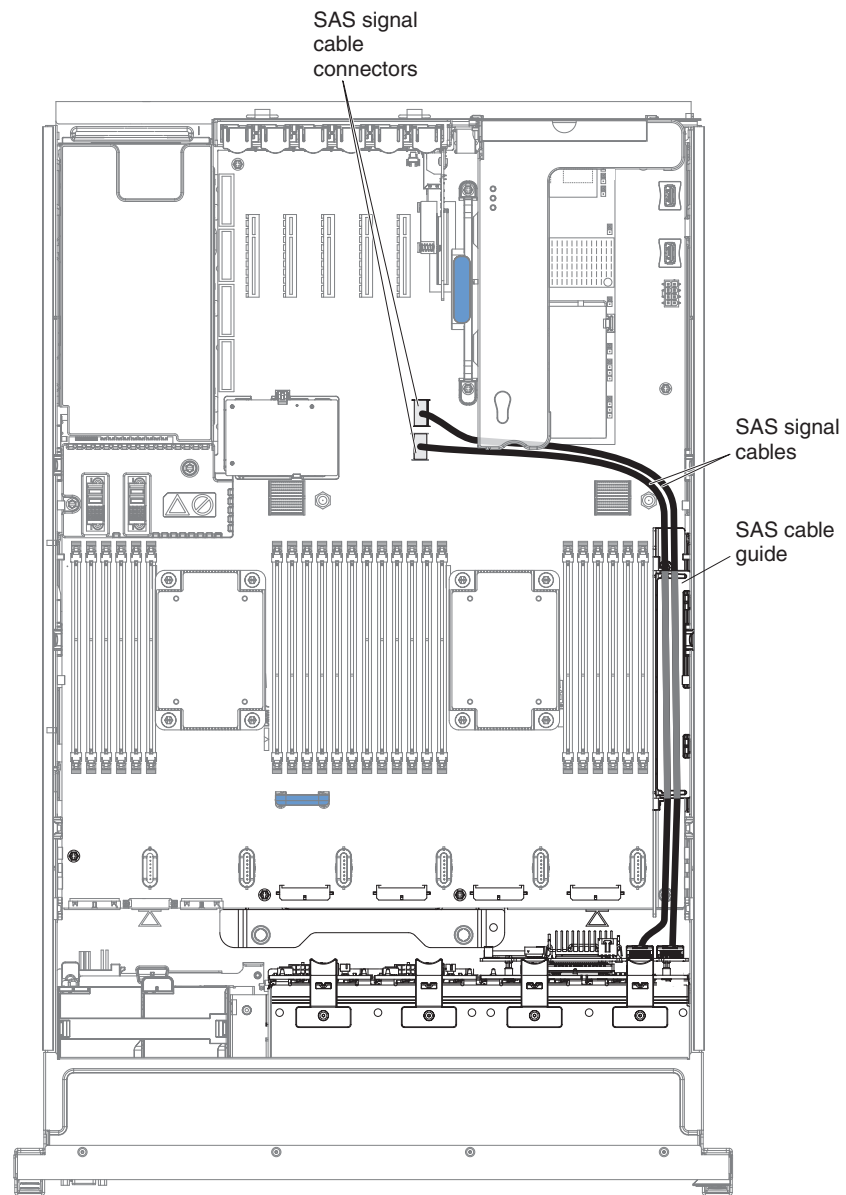
Note: You can connect the cables to the backplane before you install the backplane onto the cage, or you can connect the cables after you install the backplane, if that is easier for you.



9. Insert the drive backplane tabs into the slots on the bottom of the backplane cage and rotate the backplane assembly forward until the backplane locks into place.



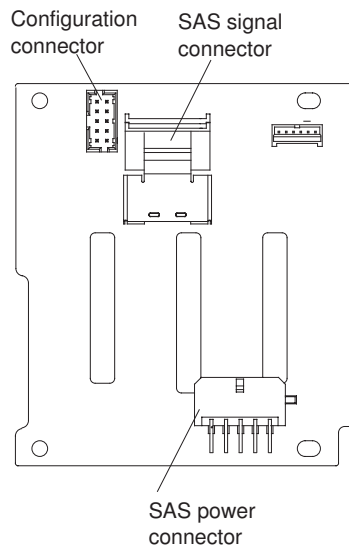
10. Connect the two interposer cables (that are attached this backplane) to the signal connectors on the other backplane in this configuration. The shortest cable connects to the closest SAS signal connector on the other backplane. The longest cable connects to the farthest SAS signal connector on the other backplane.
11. Connect the SAS signal cables to the two SAS signal connectors on the system board and route the cables through the SAS cable guide; then, connect the other end of the signal cables to the backplane assembly.



12. Close the SAS cable guide cover.

If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation” on page 115.

Installing the 4x2.5-inch hot-swap drive backplane



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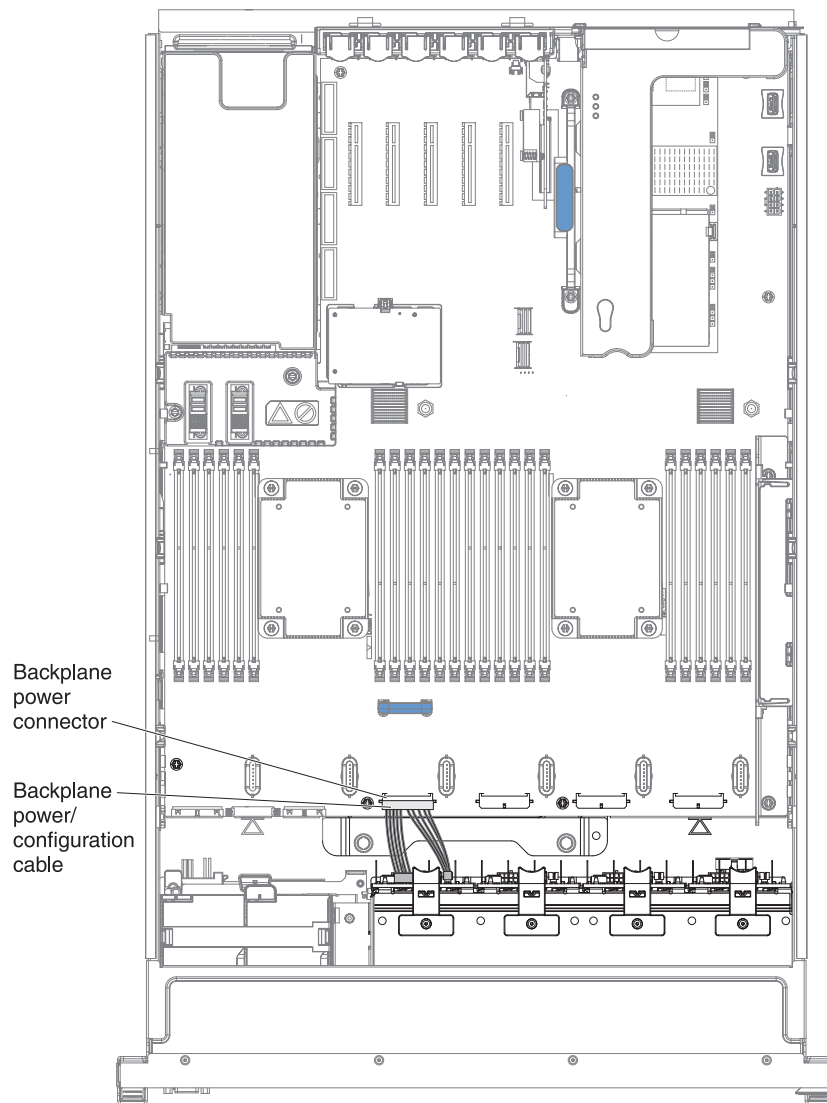
Note:

- For more information about connecting the SAS signal cables to the drive backplane, see “Connecting the SAS cables” on page 60).
- The right-angle SAS signal cables that come with the backplane only connect to the SAS signal cable connectors on the system board.

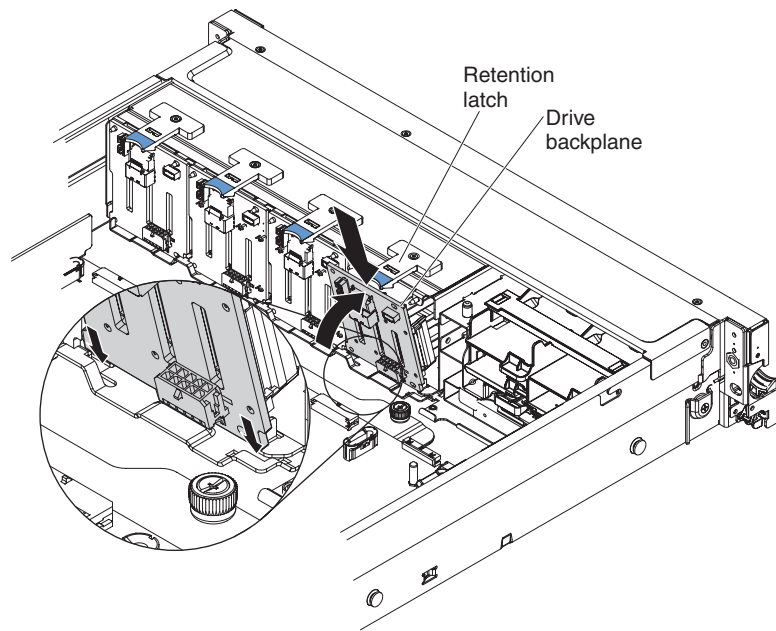
To install the 4x2.5-inch hot-swap drive backplane, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables from the server.
3. Remove the top cover (see “Removing the server top cover” on page 35).
4. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 39).
5. Remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269) or DIMM air baffle (see “Removing the DIMM air baffle” on page 204), whichever one is installed.
6. Open the SAS cable guide cover.
7. If backplane filler panels are installed in the backplane bay in which you are installing the backplane, remove the backplane filler panels.
8. Connect the combination power/configuration cable end to the power and configuration connectors on the drive backplane; then, connect the power connector on the other end of the cable to the backplane power connector on the system board. See the following cabling illustration.

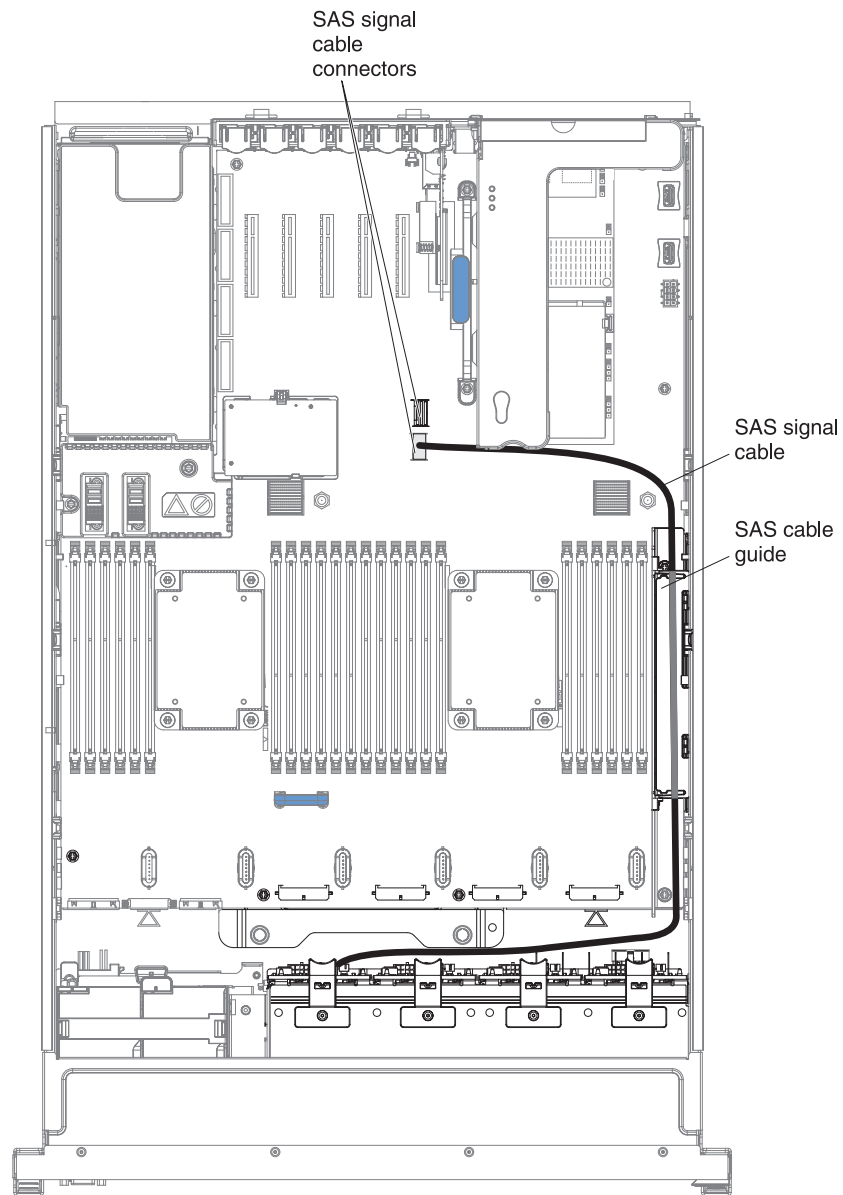
Note: You can connect the cables to the drive backplane before you install the backplane onto the cage, or you can connect the cables after you install the backplane, if that is easier for you.



9. Insert the backplane tabs into the slots on the bottom of the backplane cage and rotate the drive backplane assembly forward until the backplane locks in place.



10. Route the signal cables through the SAS cable guide and connect signal cables to the drive backplane assembly and to the adapter or the system board.



11. Close the SAS cable guide cover.

If you have other devices to install or remove, do so now. Otherwise, go to “Completing the installation.”

Completing the installation

To complete the installation, complete the following steps:

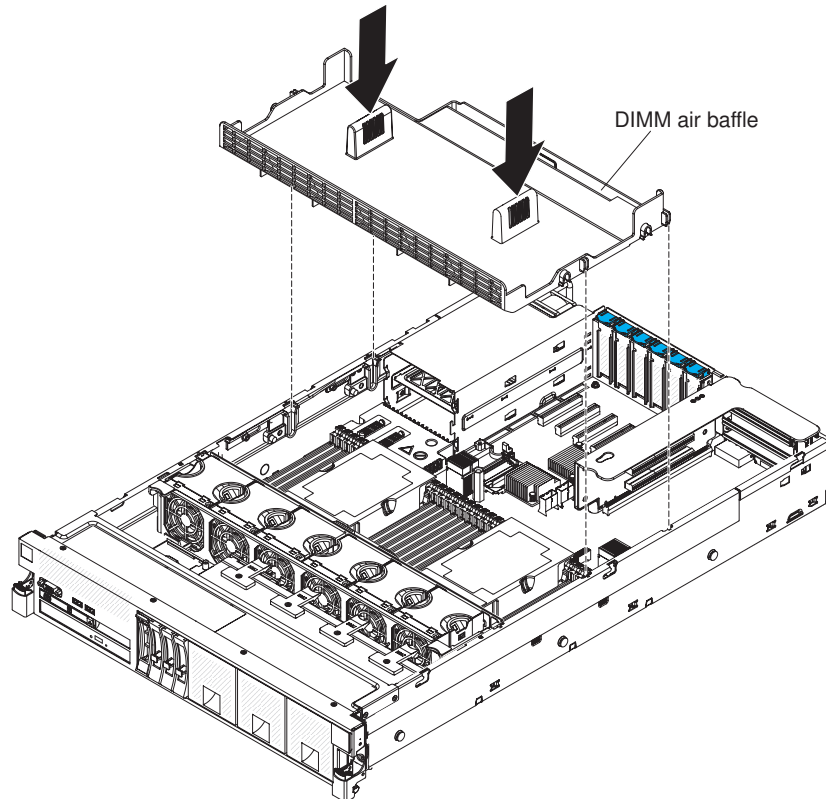
1. Make sure that the SAS cable guide is closed.
2. If you removed any air baffles or the microprocessor and memory expansion tray, reinstall them (see “Replacing the DIMM air baffle” on page 116, “Replacing the microprocessor and memory expansion tray assembly” on page 117, and “Replacing the microprocessor air baffle” on page 116).
3. Replace the fan cage assembly, if you removed it (see “Replacing the fan cage assembly” on page 118).
4. Reconnect the cables (see “Connecting the cables” on page 119).

5. Update the server configuration (see “Updating the server configuration” on page 120).
6. Reconnect the power cords.
7. If you removed the server cover, replace it (see “Replacing the server top cover” on page 118).
8. Start the server. Confirm that it starts correctly and recognizes the newly installed devices, and make sure that no error LEDs are lit.
9. (IBM Business Partners only) Complete the additional steps in “Instructions for IBM Business Partners” on page 24.
10. Install the server in the rack (see the *Rack Installation Instructions* that come with the server for instructions).

Replacing the DIMM air baffle

To install the DIMM air baffle, complete the following steps:

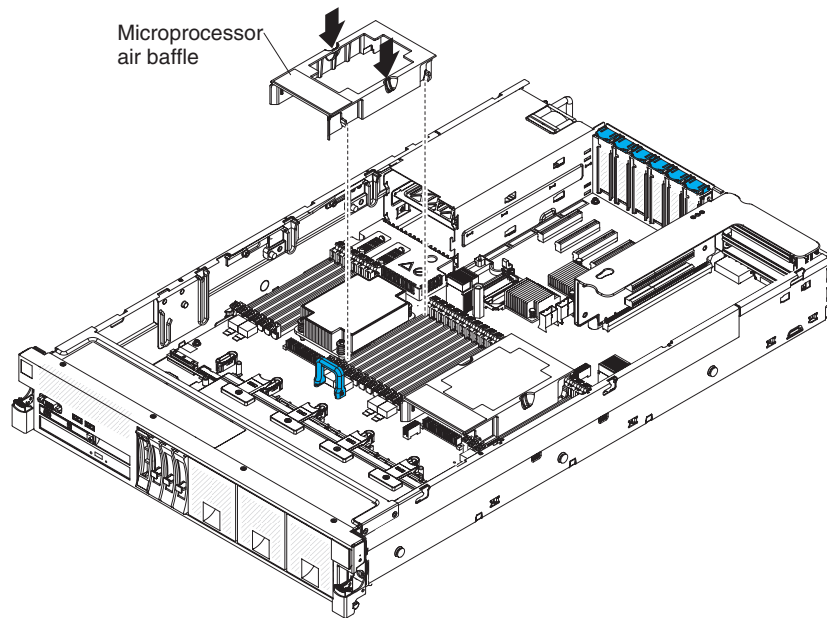
1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Align the tabs on the sides of the DIMM air baffle with the slots on the sides of the chassis wall and lower the DIMM air baffle into the server.



Replacing the microprocessor air baffle

To install the microprocessor air baffle, complete the following steps:

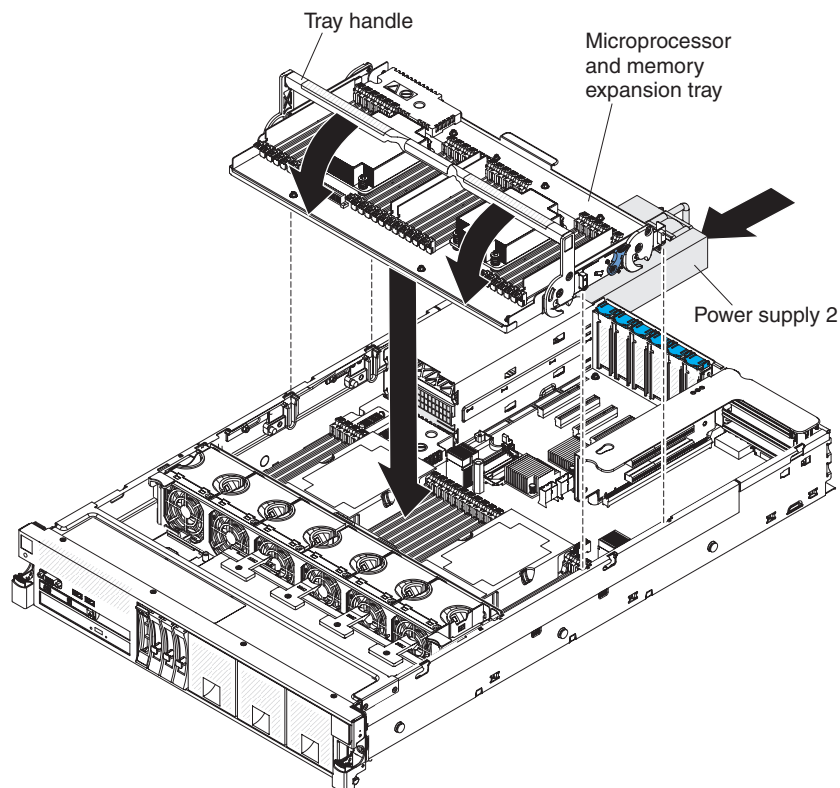
1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Align the tabs on the air baffle behind the latches (front and rear latches) of the two DIMMs closest to the microprocessor (the DIMM on the left of the microprocessor and the DIMM on the right of the microprocessor); then, lower the air baffle down until it is seated firmly.



Replacing the microprocessor and memory expansion tray assembly

To replace the microprocessor and memory expansion tray, complete the following steps:

1. Read the safety information and installation guidelines, see "Safety" on page vii and "Installation guidelines" on page 33.
2. Grasp the tray by the handles, and align the tabs on the sides of the microprocessor and memory expansion tray with the slots on the chassis wall, and lower the tray into the server.

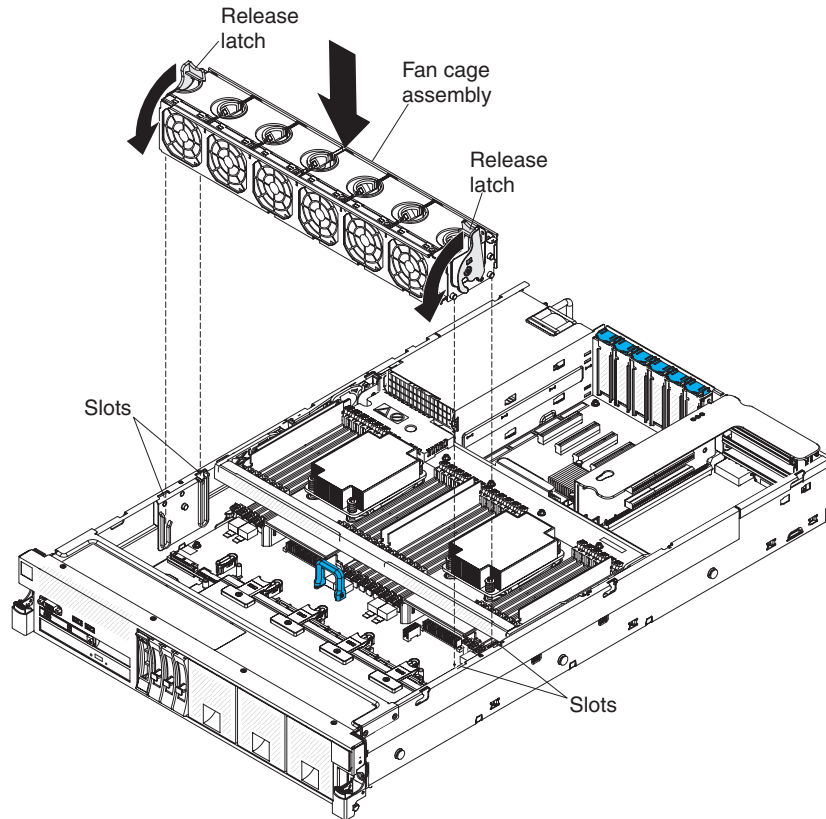


3. Rotate the tray handle down until the tray is seated firmly and the handle is locked in place.
4. Slide power supply 2 back into the server.

Replacing the fan cage assembly

To replace the fan cage assembly, complete the following steps:

1. Make sure that no backplane cables or other cables are in the way before you install the fan cage assembly.
2. Align the tabs on the fan cage assembly with the slots on both sides of the chassis and lower it into the server.



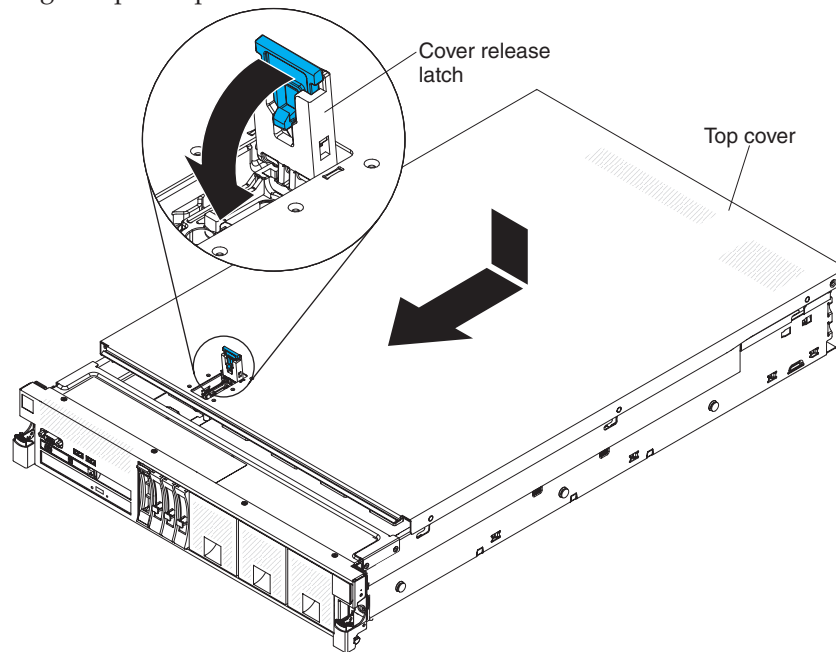
3. Rotate the fan cage assembly release latches down until the release latches are in the locked position.

Replacing the server top cover

To replace the server cover, complete the following steps:

1. Make sure that all cables, adapters, and other components are installed and seated correctly and that you have not left loose tools or parts inside the server. Also, make sure that all internal cables are correctly routed.

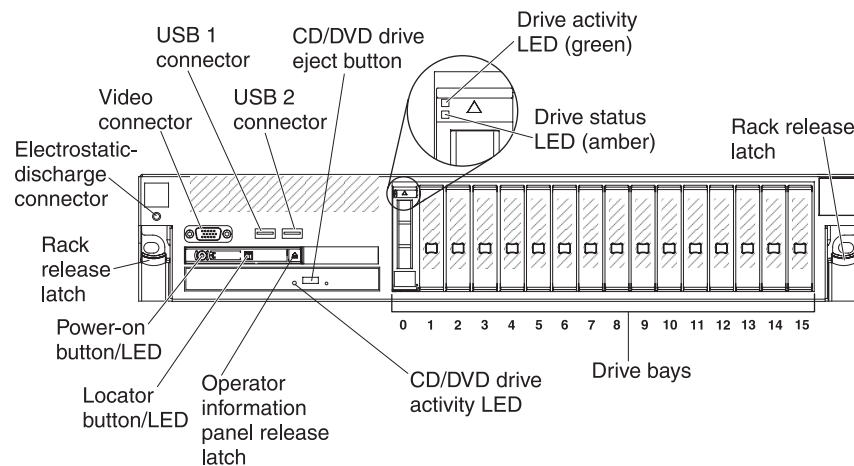
- Align the cover over the server (toward the rear of the server) until the cover edges slip into position over the chassis.



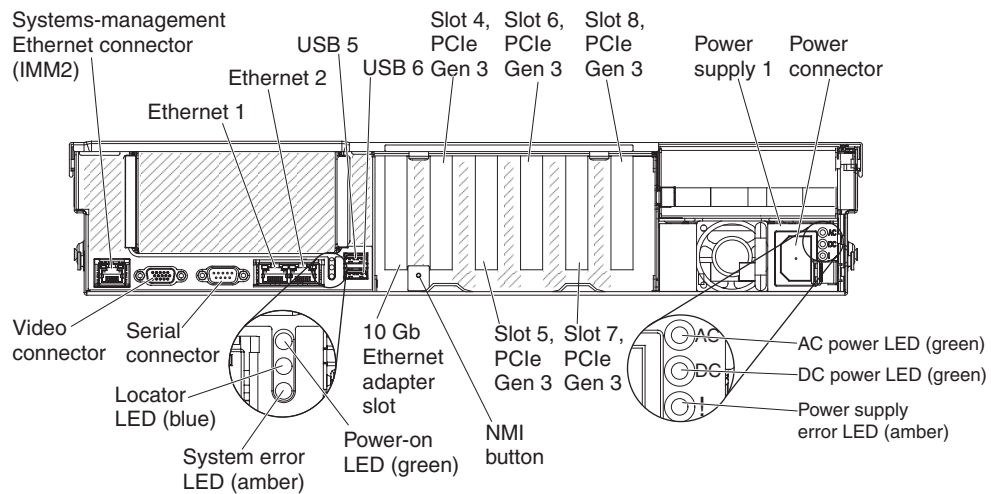
- Slide the cover toward the front of the server until the cover starts to engage on the server; then, press down on the cover release latch until it clicks into place.

Connecting the cables

The following illustration shows the locations of the input and output connectors on the front of the server.



The following illustration shows the locations of the input and output connectors on the rear of the server.



You must turn off the server before you connect or disconnect cables.

See the documentation that comes with any external devices for additional cabling instructions. It might be easier for you to route cables before you connect the devices to the server.

Updating the server configuration

When you start the server for the first time after you add or remove a device, you might receive a message that the configuration has changed. The Setup utility starts automatically so that you can save the new configuration settings.

Some optional devices have device drivers that you must install. For information about installing device drivers, see the documentation that comes with each device.

If the server has an optional RAID adapter and you have installed or removed a hard disk drive, see the documentation that comes with the RAID adapter for information about reconfiguring the disk arrays.

The server comes with at least one microprocessor. If more than one microprocessor is installed, the server can operate as a symmetric multiprocessing (SMP) server. You might have to upgrade the operating system to support SMP. For more information, see “Typical operating-system installation” on page 124 and the operating-system documentation.

For information about configuring the integrated Ethernet controller, see “Configuring the Ethernet controller” on page 137.

Chapter 3. Configuration information and instructions

This chapter provides information about updating the firmware and using the configuration utilities.

Updating the firmware

Note:

- Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.
- Before you update the firmware, be sure to back up any data that is stored in the Trusted Platform Module (TPM), in case any of the TPM characteristics are changed by the new firmware. For instructions, see your encryption software documentation.

To check for the latest level of firmware, such as the UEFI firmware, vital product data (VPD), device drivers, and integrated management module (IMM) firmware, go to <http://www.ibm.com/support/fixcentral/>.

Attention: Installing the wrong firmware or device-driver update might cause the server to malfunction. Before you install a firmware or device-driver update, read any readme and change history files that are provided with the downloaded update. These files contain important information about the update and the procedure for installing the update, including any special procedure for updating from an early firmware or device-driver version to the latest version.

You can install code updates that are packaged as an UpdateXpress System Pack or UpdateXpress CD image. An UpdateXpress System Pack contains an integration-tested bundle of online firmware and device-driver updates for your server. Use UpdateXpress System Pack Installer to acquire and apply UpdateXpress System Packs and individual firmware and device-driver updates. For additional information and to download the UpdateXpress System Pack Installer, go to the ToolsCenter for System x and BladeCenter at <http://www.ibm.com/support/entry/portal/docdisplay?brand=5000008&lnidocid=TOOL-CENTER> and click **UpdateXpress System Pack Installer**.

When you click an update, an information page is displayed, including a list of the problems that the update fixes. Review this list for your specific problem; however, even if your problem is not listed, installing the update might solve the problem.

Be sure to separately install any listed critical updates that have release dates that are later than the release date of the UpdateXpress System Pack or UpdateXpress image.

The firmware for the server is periodically updated. Download the latest firmware for the server; then, install the firmware, using the instructions that are included with the downloaded files.

When you replace a device in the server, you might have to update the firmware that is stored in memory on the device or restore the pre-existing firmware from a CD or DVD image.

The following list indicates where the firmware is stored:

- UEFI firmware is stored in ROM on the system board.
- IMM2 firmware is stored in ROM on the system board.
- Ethernet firmware is stored in ROM on the Ethernet controller and on the system board.
- ServeRAID firmware is stored in ROM on the system board and the RAID adapter (if one is installed).
- SAS/SATA firmware is stored in ROM on the SAS/SATA controller on the system board.

Configuring the server

The following configuration programs come with the server:

- **Setup utility**

The Setup utility is part of the UEFI firmware. Use it to perform configuration tasks such as changing interrupt request (IRQ) settings, changing the startup-device sequence, setting the date and time, and setting passwords. For information about using this program, see “Using the Setup utility” on page 125.

- **Boot Manager**

The Boot Manager is part of the UEFI firmware. Use it to override the startup sequence that is set in the Setup utility and temporarily assign a device to be first in the startup sequence. For more information about using this program, see “Using the Boot Manager” on page 132.

- **IBM ServerGuide Setup and Installation CD**

The ServerGuide program provides software-setup tools and installation tools that are designed for the server. Use this CD during the installation of the server to configure basic hardware features, such as an integrated SAS/SATA controller with RAID capabilities, and to simplify the installation of your operating system. For information about using this CD, see “Using the ServerGuide Setup and Installation CD” on page 123.

- **Integrated management module**

Use the integrated management module II (IMM2) for configuration, to update the firmware and sensor data record/field replaceable unit (SDR/FRU) data, and to remotely manage a network. For information about using the IMM, see “Using the integrated management module” on page 132 and the *Integrated Management Module II User's Guide* at <http://www.ibm.com/support/entry/portal/docdisplay?lnodocid=MIGR-5089484>.

- **VMware ESXi embedded hypervisor**

An optional USB flash device with VMware ESXi embedded hypervisor software is available for purchase. Hypervisor is virtualization software that enables multiple operating systems to run on a host system at the same time. The USB embedded hypervisor flash device can be installed in USB connectors 3 and 4 on the system board. For more information about using the embedded hypervisor, see “Using the embedded hypervisor” on page 136.

- **Remote presence and blue-screen capture features**

The remote presence and blue-screen capture features are integrated functions of the integrated management module (IMM2). The remote presence feature provides the following functions:

- Remotely viewing video with graphics resolutions up to 1600 x 1200 at 75 Hz, regardless of the system state

- Remotely accessing the server, using the keyboard and mouse from a remote client
- Mapping the CD or DVD drive, diskette drive, and USB flash drive on a remote client, and mapping ISO and diskette image files as virtual drives that are available for use by the server
- Uploading a diskette image to the IMM memory and mapping it to the server as a virtual drive

The blue-screen capture feature captures the video display contents before the IMM restarts the server when the IMM detects an operating-system hang condition. A system administrator can use the blue-screen capture feature to assist in determining the cause of the hang condition.

- **Ethernet controller configuration**

For information about configuring the Ethernet controller, see “Configuring the Ethernet controller” on page 137.

- **Features on Demand Ethernet software**

The server provides Features on Demand software Ethernet support. You can purchase a Features on Demand software upgrade key for Fibre Channel over Ethernet (FCoE) and iSCSI storage protocols that is provided through the integrated Emulex BE3 Ethernet controller. For more information, see “Enabling Features on Demand Ethernet software” on page 137.

- **Features on Demand RAID software**

The server comes with Features on Demand software RAID support for RAID levels 5, 6, 50, and 60 upgrade. Software RAID upgrade is enabled through the integrated management module II (IMM2). For more information, see “Enabling Features on Demand RAID software” on page 137.

- **Configuring RAID arrays**

For information about configuring RAID arrays, see “Configuring RAID arrays” on page 137.

- **IBM Advanced Settings Utility (ASU) program**

Use this program as an alternative to the Setup utility for modifying UEFI settings and IMM settings. Use the ASU program online or out of band to modify UEFI settings from the command line without the need to restart the server to run the Setup utility. For more information about using this program, see “IBM Advanced Settings Utility program” on page 138.

Using the ServerGuide Setup and Installation CD

The *ServerGuide Setup and Installation* CD provides software setup tools and installation tools that are designed for your server. The ServerGuide program detects the server model and optional hardware devices that are installed and uses that information during setup to configure the hardware. The ServerGuide simplifies the operating-system installations by providing updated device drivers and, in some cases, installing them automatically.

You can download a free image of the *ServerGuide Setup and Installation* CD or purchase the CD from the ServerGuide fulfillment website at <http://www.ibm.com/systems/management/serverguide/sub.html>. To download the free image, click **IBM Service and Support Site**.

Note: Changes are made periodically to the IBM web site. The actual procedure might vary slightly from what is described in this document.

The ServerGuide program requires a supported IBM server with an enabled startable (bootable) CD drive. In addition to the *ServerGuide Setup and Installation* CD, you must have your operating-system CD to install the operating system.

To start the *ServerGuide Setup and Installation* CD, complete the following steps:

1. Insert the CD, and restart the server. If the CD does not start, see “ServerGuide problems” on page 179.
2. Follow the instructions on the screen to complete the following steps:
 - a. Select your language.
 - b. Select your keyboard layout and country.
 - c. View the overview to learn about ServerGuide features.
 - d. View the readme file to review installation tips for your operating system and adapter.
 - e. Start the operating-system installation. You will need your operating-system CD.

ServerGuide features

Features and functions can vary slightly with different versions of the ServerGuide program. To learn more about the version that you have, start the *ServerGuide Setup and Installation* CD and view the online overview. Not all features are supported on all server models.

The ServerGuide program performs the following tasks:

- Sets system date and time
- Detects the RAID adapter or controller and runs the SAS/SATA RAID configuration program
- Checks the microcode (firmware) levels of a ServeRAID adapter and determines whether a later level is available from the CD
- Detects installed hardware options and provides updated device drivers for most adapters and devices
- Provides diskette-free installation for supported Windows operating systems
- Includes an online readme file with links to tips for your hardware and operating-system installation

Setup and configuration overview

When you use the *ServerGuide Setup and Installation* CD, you do not need setup diskettes. You can use the CD to configure any supported IBM server model. The setup program provides a list of tasks that are required to set up your server model. On a server with a ServeRAID adapter or SAS/SATA controller with RAID capabilities, you can run the SAS/SATA RAID configuration program to create logical drives.

Note: Features and functions can vary slightly with different versions of the ServerGuide program.

Typical operating-system installation

The ServerGuide program can reduce the time it takes to install an operating system. It provides the device drivers that are required for your hardware and for the operating system that you are installing. This section describes a typical ServerGuide operating-system installation.

Note: Features and functions can vary slightly with different versions of the ServerGuide program.

1. After you have completed the setup process, the operating-system installation program starts. (You will need your operating-system CD to complete the installation.)
2. The ServerGuide program stores information about the server model, service processor, hard disk drive controllers, and network adapters. Then, the program checks the CD for newer device drivers. This information is stored and then passed to the operating-system installation program.
3. The ServerGuide program presents operating-system partition options that are based on your operating-system selection and the installed hard disk drives.
4. The ServerGuide program prompts you to insert your operating-system CD and restart the server. At this point, the installation program for the operating system takes control to complete the installation.

Installing your operating system without using ServerGuide

If you have already configured the server hardware and you are not using the ServerGuide program to install your operating system, you download operating-system installation instructions for the server from <http://www.ibm.com/supportportal/>.

Using the Setup utility

Use the Unified Extensible Firmware Interface (UEFI) Setup utility to perform the following tasks:

- View configuration information
- View and change settings for devices and I/O ports
- Set the date and time
- Set and change passwords
- Set the startup characteristics of the server and the order of startup devices
- Set and change settings for advanced hardware features
- View, set, and change settings for power-management features
- View and clear error logs
- Change interrupt request (IRQ) settings
- Resolve configuration conflicts

Starting the Setup utility

To start the Setup utility, complete the following steps:

1. Turn on the server.

Note: Approximately 10 seconds after the server is connected to input power, the power-on button becomes active.

2. When the prompt <F1> Setup is displayed, press F1. If you have set an administrator password, you must type the administrator password to access the full Setup utility menu. If you do not type the administrator password, a limited Setup utility menu is available.
3. Select settings to view or change.

Setup utility menu choices

The following choices are on the UEFI Setup utility main menu. Depending on the version of the UEFI firmware, some menu choices might differ slightly from these descriptions. For more information on UEFI-compliant firmware, go to <http://www-947.ibm.com/systems/support/supportsite.wss/docdisplay?Indocid=MIGR-5083207&brandind=5000008>.

- **System Information**

Select this choice to view basic information about the server. When you make changes through other choices in the Setup utility, some of those changes are reflected in the system information; you cannot change settings directly in the system information.

- **System Summary**

Select this choice to view configuration information, including the ID, speed, and cache size of the microprocessors, machine type and model of the server, the serial number, the system UUID, and the amount of installed memory. When you make configuration changes through other choices in the Setup utility, the changes are reflected in the system summary; you cannot change settings directly in the system summary.

- **Product Data**

Select this choice to view, the revision level or issue date of the firmware, the integrated management module and diagnostics code, and the version and date.

- **System Settings**

Select this choice to view or change the server component settings. This choice is on the full Setup utility menu only.

- **Adapters and UEFI Drivers**

Select this choice if you want to use the configuration capabilities of the device drivers to configure the device.

- **Processors**

Select this choice to view or change the processor settings.

- **Memory**

Select this choice to view or change the memory settings. To configure memory mirroring, select **System Settings → Memory → Memory Mode → Mirroring**.

- **Devices and I/O Ports**

Select this choice to view or change settings for devices and input/output (I/O) ports. You can configure the serial ports; configure remote console redirection; enable or disable the integrated Ethernet controller, SAS/SATA controller, SATA optical drive channels, and PCI slots. If you disable a device, it cannot be configured, and the operating system will not be able to detect it (this is equivalent to disconnecting the device).

- **Power**

Select this choice to view or change power capping to control consumption, processors, and performance states.

- **Active Energy Manager**

Select this choice to enable or disable power capping. If you enable power capping, the Active Energy Manager program will limit the maximum power that is consumed by the server.

- **Operating Modes**

Select this choice to view or change the operating profile (performance and power utilization). This choice specifies a preset operating mode to configure the server for maximum power savings, maximum efficiency, and maximum performance.

- **Minimal Power mode**

Select this choice to minimize the absolute power consumption of the system during operation. Server performance in this mode might be reduced depending on the application that is running.

- **Efficiency-Favor Power mode**

Select this choice to configure the server to draw the minimum amount of power and generate the least noise. Server performance might be degraded, depending on the application that you are running. This mode provides the best features for reducing power and increasing performance in applications where the maximum bus speeds are not critical.

- **Efficiency-Favor Performance mode**

Select this choice to maintain the optimal balance between performance and power consumption. The server generally produces the best performance per watt while it is in this mode. No bus speeds are derated in this mode. This is the **default** mode.

- **Maximum Performance mode**

Select this choice to achieve the maximum performance for most server applications. The power consumption in this mode is often higher than in the Efficiency-Favor Power or Efficiency-Favor Performance mode.

- **Custom mode**

Select this choice only if you understand the functions of the low-level IMM settings. This is the only choice that enables you to change the low-level IMM settings that affect the performance and power consumption of the server.

- **Legacy Support**

Select this choice to view or set legacy support.

- **Force Legacy Video on Boot**

Select this choice to force legacy video support, if the operating system does not support UEFI video output standards.

- **Rehook INT 19H**

Select this choice to enable or disable devices from taking control of the boot process. The default is **Disable**.

- **Legacy Thunk Support**

Select this choice to enable or disable UEFI to interact with PCI mass storage devices that are non-UEFI compliant.

- **Infinite Boot Retry**

Select this choice to enable or disable the infinitely retry of the Legacy Boot.

- **System Security**

Select this choice to view or configure Trusted Platform Module (TPM) support.

- **Integrated Management Module**

Select this choice to view or change the settings for the integrated management module.

- **Power Restore Policy**

Select this choice to determine the mode of operation to which the server will be restored after a power outage occurs. You can select **Always Off**, **Restore**, or **Always On** to restore the server the state that it was set to at the time of the power outage.

- **Commands on USB Interface Preference**

Select this choice to enable or disable the Ethernet over USB interface on the IMM.

- **Network Configuration**

Select this choice to view the systems-management network interface port, the IMM MAC address, the current IMM IP address, the system Ethernet MAC addresses, and the host name; define the static IMM IP address, subnet mask, and gateway address; specify whether to use the static IP address or have DHCP assign the IMM IP address; save the network changes; and reset the IMM.

- **Reset IMM to Defaults**

Select this choice to reset the IMM to the default settings.

- **Reset IMM**

Select this choice to reset the IMM settings.

- **Recovery**

Select this choice to view or set the number of POST attempts and configure start recovery attempts.

- **POST attempts**

Select this choice to view or set the number of attempts to POST before the recovery is started.

- **System Recovery**

Select this choice to view or set the time to start the system recovery attempt.

- **POST Watchdog Timer**

Select this choice to view or enable the POST watchdog timer.

- **POST Watchdog Timer Value**

Select this choice to view or set the POST loader watchdog timer value.

- **Reboot System on NMI**

Select this choice to enable or disable restarting the server whenever a nonmaskable interrupt (NMI) occurs. The default is **Enabled**.

- **Halt On Server Error**

Select this choice to prevent the server from booting the operating system and displaying the POST event viewer when a severe error is detected during POST.

- **Storage**

Select this choice to view and manage RAID controller configurations.

- **Network**

Select this choice to view or configure the network device options, such as iSCSI, PXE, and network devices. There might be additional configuration choices for optional network devices that are compliant with UEFI 2.1 and later.

- **Driver Health**

Select this choice to view the health of the controllers in the server as reported by their device drivers.

- **Date and Time**

Select this choice to set the date and time in the server, in 24-hour format (*hour:minute:second*).

This choice is on the full Setup utility menu only.

- **Start Options**

Select this choice to view the startup sequence or select an option to try and boot from immediately. Changes in the startup options take effect when you start the server.

- **Boot Manager**

Select this choice to view, add, delete, or change the device boot order, boot from a file, boot from a device, or boot the UEFI shell. This choice is on the full Setup utility menu only.

- **System Event Logs**

Select this choice to enter the System Event Manager, where you can view the POST event log and the system-event log. You can use the arrow keys to move between pages in the error log. This choice is on the full Setup utility menu only.

The POST event log contains the most recent error codes and messages that were generated during POST.

The system-event log contains POST and system management interrupt (SMI) events and all events that are generated by the baseboard management controller that is embedded in the integrated management module (IMM).

Important: If the system-error LED on the front of the server is lit but there are no other error indications, clear the system-event log. Also, after you complete a repair or correct an error, clear the system-event log to turn off the system-error LED on the front of the server.

- **POST Event Viewer**

Select this choice to enter the POST event viewer to view the error messages in the POST event log.

- **System Event Log**

Select this choice to view the system-event log.

- **Clear System Event Log**

Select this choice to clear the system-event log.

- **User Security**

Select this choice to set, change, or clear passwords. The full Setup utility menu, enables all of the options in the User Security option. See “Passwords” on page 130 for more information.

This choice is on the full and limited Setup utility menu.

- **Set Power-on Password**

Select this choice to set or change a power-on password. See “Power-on password” on page 130 for more information.

- **Clear Power-on Password**

Select this choice to clear the power-on password.

- **Set Administrator Password**

Select this choice to set or change an administrator password. An administrator password is intended to be used by a system administrator; it limits access to the full Setup utility menu. If an administrator password is set, the full Setup utility menu is available only if you type the administrator password at the password prompt. For more information, see “Administrator password” on page 131.

- **Clear Admin Password**

Select this choice to clear the Administrator Password.

- **Save Settings**

Select this choice to save the changes that you have made in the settings. This choice is on the full Setup utility menu only.

- **Restore Settings**

Select this choice to cancel the changes that you have made in the settings and restore the previous settings. This choice is on the full Setup utility menu only.

- **Load Default Settings**

Select this choice to cancel the changes that you have made in the settings and restore the factory settings. This choice is on the full Setup utility menu only.

- **Exit Setup**

Select this choice to exit from the Setup utility. If you have not saved the changes that you have made in the settings, you are asked whether you want to save the changes or exit without saving them.

Passwords

From the **User Security** menu choice, you can set, change, and delete a power-on password and an administrator password. The **User Security** choice is on the full Setup utility menu only.

If you set only a power-on password, you must type the power-on password to complete the system startup and to have access to the full Setup utility menu.

An administrator password is intended to be used by a system administrator; it limits access to the full Setup utility menu. If you set only an administrator password, you do not have to type a password to complete the system startup, but you must type the administrator password to access the Setup utility menu.

If you set a power-on password for a user and an administrator password for a system administrator, you can type either password to complete the system startup. A system administrator who types the administrator password has access to the full Setup utility menu; the system administrator can give the user authority to set, change, and delete the power-on password. A user who types the power-on password has access to only the limited Setup utility menu; the user can set, change, and delete the power-on password, if the system administrator has given the user that authority.

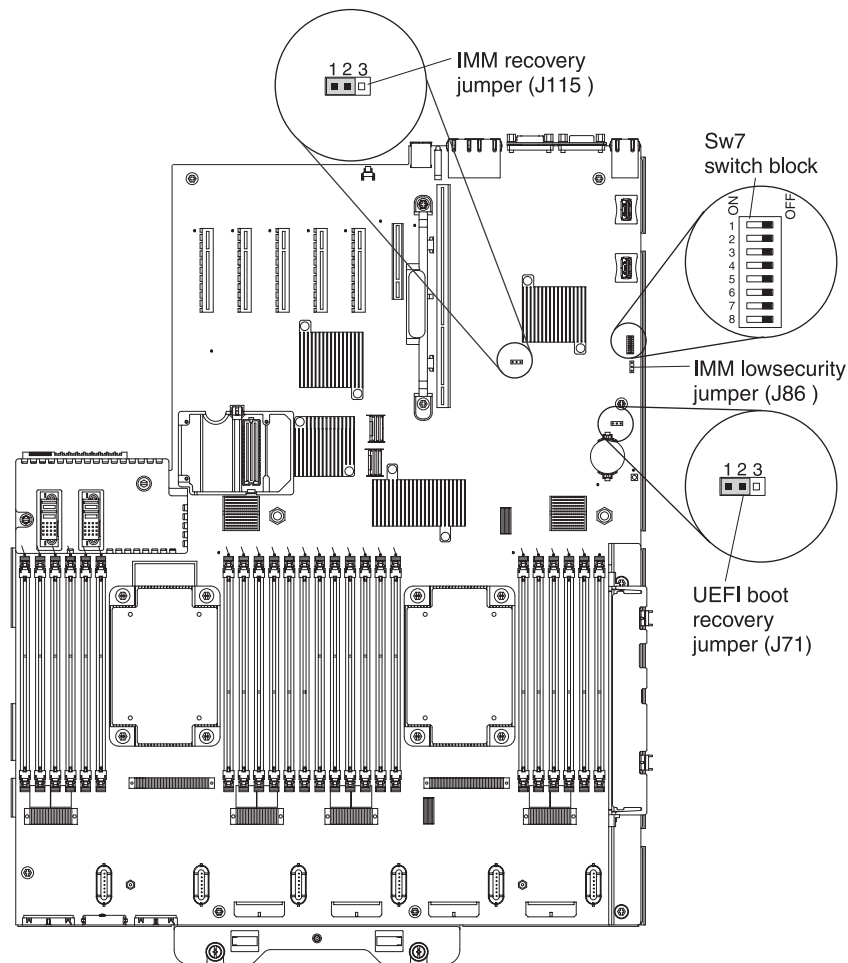
Power-on password:

If a power-on password is set, when you turn on the server, the system startup will not be completed until you type the power-on password. You can use any combination of 6 to 20 printable ASCII characters for the password.

When a power-on password is set, you can enable the Unattended Start mode, in which the keyboard and mouse remain locked but the operating system can start. You can unlock the keyboard and mouse by typing the power-on password.

If you forget the power-on password, you can regain access to the server in any of the following ways:

- If an administrator password is set, type the administrator password at the password prompt. Start the Setup utility and reset the power-on password.
- Remove the battery from the server, wait 30 seconds, and then reinstall it.
- Change the position of the power-on password switch (switch 6) on the system board switch block (SW7) to bypass the power-on password check (see Table 3 on page 29 for more information).



Attention: Before you change any switch settings or move any jumpers, turn off the server; then, disconnect all power cords and external cables. See the safety information that begins on page “Safety” on page vii. Do not change settings or move jumpers on any system-board switch or jumper blocks that are not shown in this document.

The default for all of the switches on switch block SW7 is Off.

While the server is turned off, move switch 6 on the switch block SW7 to the On position to enable the power-on password override. You can then start the Setup utility and reset the power-on password. You do not have to return the switch to the previous position.

The power-on password override switch does not affect the administrator password.

Administrator password:

If an administrator password is set, you must type the administrator password for access to the full Setup utility menu. You can use any combination of 6 to 20 printable ASCII characters for the password.

Attention: If you set an administrator password and then forget it, there is no way to change, override, or remove it. You must replace the system board.

Using the Boot Manager

The Boot Manager is a built-in, menu-driven configuration utility program that you can use to temporarily redefine the first startup device without changing settings in the Setup utility.

To use the Boot Manager, complete the following steps:

1. Turn off the server.
2. Restart the server.
3. When the prompt <F12> Select Boot Device is displayed, press F12.
4. Use the Up arrow and Down arrow keys to select an item from the menu and press Enter.

The next time the server starts, it returns to the startup sequence that is set in the Setup utility.

Starting the backup server firmware

The system board contains a backup copy area for the server firmware. This is a secondary copy of the server firmware that you update only during the process of updating the server firmware. If the primary copy of the server firmware becomes damaged, use this backup copy.

To force the server to start from the backup copy, turn off the server; then, place the J71 jumper (UEFI boot recovery jumper) in the backup position (pins 2 and 3). See “System-board switches, jumpers, and buttons” on page 27 for the location of the UEFI boot recovery jumper (J71).

Use the backup copy of the server firmware until the primary copy is restored. After the primary copy is restored, turn off the server; then, move the J71 jumper back to the primary position (pins 1 and 2).

The UpdateXpress System Pack Installer

The UpdateXpress System Pack Installer detects supported and installed device drivers and firmware in the server and installs available updates. For additional information and to download the UpdateXpress System Pack Installer, go to the ToolsCenter for System x and BladeCenter at <http://publib.boulder.ibm.com/infocenter/toolsctr/v1r0/index.jsp> and click **UpdateXpress System Pack Installer**.

Using the integrated management module

The integrated management module II (IMM2) is a second generation of the functions that were formerly provided by the baseboard management controller hardware. It combines service processor functions, video controller, and remote presence function in a single chip.

For more information about IMM2, see the *Integrated Management Module II User's Guide* at <http://www.ibm.com/support/entry/portal/docdisplay?lnocid=MIGR-5089484>.

The IMM supports the following basic systems-management features:

- Active Energy Manager.
- Alerts (in-band and out-of-band alerting, PET traps - IPMI style, SNMP, email).
- Auto Boot Failure Recovery (ABR).

- Automatic microprocessor disable on failure and restart in a multi-microprocessor configuration when one microprocessor signals an internal error. When one of the microprocessors fail, the server will disable the failing microprocessor and restart with the other microprocessors.

Note: When one microprocessor fails in a four-microprocessor configuration, two microprocessors will be disabled.

- Automatic Server Restart (ASR) when POST is not complete or the operating system hangs and the operating system watchdog timer times out. The IMM might be configured to watch for the operating system watchdog timer and reboot the system after a timeout, if the ASR feature is enabled. Otherwise, the IMM allows the administrator to generate a nonmaskable interrupt (NMI) by pressing an NMI button on the rear of the server for an operating-system memory dump. ASR is supported by IPMI.
- Remote presence support (remote video, remote keyboard/mouse, and remote storage).
- Boot sequence manipulation.
- Command-line interface.
- Configuration save and restore.
- DIMM error assistance. The Unified Extensible Firmware Interface (UEFI) disables a failing DIMM that is detected during POST, and the IMM lights the associated system error LED and the failing DIMM error LED.
- Environmental monitor with fan speed, temperature, voltages, fan failure, power supply failure, and power backplane failure.
- First Failure Data Capture (FFDC) support.
- Intelligent Platform Management Interface (IPMI) Specification V2.0 and Intelligent Platform Management Bus (IPMB) support.
- Invalid system configuration (CONFIG) LED support.
- Light path diagnostics LEDs indicators to report errors that occur with fans, power supplies, microprocessor, hard disk drives, and system errors.
- Local firmware code flash update
- Nonmaskable interrupt (NMI) detection, generation, and reporting.
- Operating-system failure blue screen capture.
- PCI configuration data.
- PECI 3 support.
- Power/reset control (power-on, hard and soft shutdown, hard and soft reset, schedule power control).
- Query power-supply input power.
- ROM-based IMM firmware flash updates.
- Serial over LAN (SOL).
- Serial port redirection over telnet or ssh.
- SMI handling
- System-event log (SEL) - user readable event log.

The IMM also provides the following remote server management capabilities through the OSA SMBridge management utility program:

- **Command-line interface (IPMI Shell)**

The command-line interface provides direct access to server management functions through the IPMI 2.0 protocol. Use the command-line interface to issue

commands to control the server power, view system information, and identify the server. You can also save one or more commands as a text file and run the file as a script.

- **Serial over LAN**

Establish a Serial over LAN (SOL) connection to manage servers from a remote location. You can remotely view and change the UEFI settings, restart the server, identify the server, and perform other management functions. Any standard Telnet client application can access the SOL connection.

Using the remote presence and blue-screen capture features

The remote presence and blue-screen capture features are integrated functions of the integrated management module II (IMM2). The remote presence feature provides the following functions:

- Remotely viewing video with graphics resolutions up to 1600 x 1200 at 75 Hz, regardless of the system state
- Remotely accessing the server, using the keyboard and mouse from a remote client
- Mapping the CD or DVD drive, diskette drive, and USB flash drive on a remote client, and mapping ISO and diskette image files as virtual drives that are available for use by the server
- Uploading a diskette image to the IMM memory and mapping it to the server as a virtual drive

The blue-screen capture feature captures the video display contents before the IMM restarts the server when the IMM detects an operating-system hang condition. A system administrator can use the blue-screen capture to assist in determining the cause of the hang condition.

For more information about IMM2, see the *Integrated Management Module II User's Guide* at <http://www.ibm.com/support/entry/portal/docdisplay?lnocid=MIGR-5089484>.

Obtaining the IMM host name

If you are logging on to the IMM for the first time after installation, the IMM defaults to DHCP. If a DHCP server is not available, the IMM uses a static IP address of 192.168.70.125. The default IPv4 host name is "IMM-" (plus the last 12 characters on the IMM MAC address). The default host name also comes on the IMM network access tag that comes attached to the power supply on the rear of the server. The IMM network access tag provides the default host name of the IMM and does not require you to start the server.

The IPv6 link-local address (LLA) is derived from the IMM default host name. The IMM LLA is on the IMM network access tag is on the power supply on the rear of the server. To derive the link-local address, complete the following steps:

1. Take the last 12 characters on the IMM MAC address (for example, 5CF3FC5EAAD0).
2. Separate the number into pairs of hexadecimal characters (for example, 5C:F3:FC:5E:AA:D0).
3. Separate the first six and last six hexadecimal characters.
4. Add "FF" and "FE" in the middle of the 12 characters (for example, 5C F3 FC FF FE 5E AA D0).
5. Convert the first pair of hexadecimal characters to binary (for example, 5=0101, C=1100, which results in 01011100 F3 FC FF FE 5E AA D0).

6. Flip the 7th binary character from left (0 to 1 or 1 to 0), which results in 01011110 F3 **FF FE** 5E AA D0.
7. Convert the binary back to hexadecimal (for example, 5E F3CFFFE5EAAD0).

Obtaining the IP address for the IMM

To access the web interface to use the remote presence feature, you need the IP address or host name of the IMM. You can obtain the IMM IP address through the Setup utility and you can obtain the IMM host name from the IMM network access tag. The server comes with a default IP address for the IMM of 192.168.70.125. To obtain the IP address, complete the following steps:

1. Turn on the server.

Note: Approximately 10 seconds after the server is connected to ac power, the power-on button becomes active.

2. When the prompt <F1> Setup is displayed, press F1. (This prompt is displayed on the screen for only a few seconds. You must press F1 quickly.) If you have set both a power-on password and an administrator password, you must type the administrator password to access the full Setup utility menu.
3. From the Setup utility main menu, select **System Settings**.
4. On the next screen, select **Integrated Management Module**.
5. On the next screen, select **Network Configuration**.
6. Find the IP address and write it down.
7. Exit from the Setup utility.

Logging on to the IMM web interface

To log on to the IMM web interface, complete the following steps:

1. On a system that is connected to the server, open a web browser. In the **Address** or **URL** field, type the IP address or host name of the IMM to which you want to connect.

Note: If you are logging on to the IMM for the first time after installation, the IMM defaults to DHCP. If a DHCP host is not available, the IMM assigns a static IP address of 192.168.70.125. The IMM network access tag provides the default host name of the IMM and does not require you to start the server.

2. On the Login page, type the user name and password. If you are using the IMM for the first time, you can obtain the user name and password from your system administrator. All login attempts are documented in the system-event log.

Note: The IMM is set initially with a user name of USERID and password of PASSWORD (with a zero in the word password, not the letter O). You have read/write access. You must change the default password the first time you log on.

3. Click **Log in** to start the session. The System Status and Health page provides a quick view of the system status.

Note: If you boot to the operating system while in the IMM GUI and the message "Booting OS or in unsupported OS" is displayed under **System Status** → **System State**, disable Windows 2008 firewall or type the following command in the Windows 2008 console. This might also affect blue-screen capture features.

```
netsh firewall set icmpsetting type=8 mode=ENABLE
```

By default, the icmp packet is blocked by Windows firewall. The IMM GUI will then change to “OS booted” status after you change the setting as indicated above in both the Web and CLI interfaces.

Logging on to the IMM CLI interface using telnet

To log on to the IMM CLI interface using telnet, complete the following steps:

1. From the command prompt, type **telnet**; then, the **IP address** for the IMM to which you want to log on to and press **Enter**.
2. Type the **USERID** and **PASSWORD** for the IMM and press **Enter**.
3. At the system prompt, type your command.

Note: You can type **help** in the command prompt if you want to see a list of commands that you can use.

4. When you are finished, type **Exit**, to exit the session.

Logging on to the IMM CLI interface using SSH

To log on to the IMM CLI interface using SSH, complete the following steps:

1. Generate an SSH Server private key, see the *Integrated Management Module II User's Guide* at <http://www.ibm.com/support/entry/portal/docdisplay?lnodocid=MIGR-5089484> for information on how to generate an SSH Server private key.
2. Make sure that the SSH Server is enabled.
3. From the command prompt, type **ssh**, then press **Enter**.
4. Type **USERID@IPADDRESS** in the command prompt (where the **USERID** and **IP ADDRESS** is the user ID and IP address for the IMM to which you want to log on to), then press **Enter**.
5. Type the **PASSWORD** for the IMM and press **Enter**.
6. At the system prompt, type your command.

Note: You can type **help** in the command prompt if you want to see a list of commands that you can use.

7. When you are finished, type **Exit**, to exit the session.

Using the embedded hypervisor

The VMware ESXi embedded hypervisor software is available on the optional IBM USB flash device with embedded hypervisor. The USB flash device can be installed in USB connectors 3 and 4 on the system board (see “System-board internal connectors” on page 26 for the location of the connectors). Hypervisor is virtualization software that enables multiple operating systems to run on a host system at the same time. The USB flash device is required to activate the hypervisor functions.

To start using the embedded hypervisor functions, you must add the USB flash device to the startup sequence in the Setup utility.

To add the USB flash device to the startup sequence, complete the following steps:

1. Turn on the server.

Note: Approximately 10 seconds after the server is connected to ac power, the power-on button becomes active.

2. When the prompt <F1> Setup is displayed, press F1.
3. From the Setup utility main menu, select **Boot Manager**.

4. Select **Add Boot Option**; then, select **Generic Boot Option** and **Embedded Hypervisor**. Press Enter, and then press Esc.
5. Select **Change Boot Order** and then select **Change the order**. Use the Up arrow and Down Arrow keys to select **Embedded Hypervisor** and use the plus (+) and minus (-) keys to move Embedded Hypervisor in the boot order. When **Embedded Hypervisor** is in the correct location in the boot order, press Enter. Select **Commit Changes** and press Enter.
6. Select **Save Settings** and then select **Exit Setup**.

If the embedded hypervisor flash device image becomes corrupted, you can download the image from <http://www.ibm.com/systems/x/os/vmware/esxi/>.

For additional information and instructions, see the *VMware vSphere Installation and Setup Guide* at <http://pubs.vmware.com/vsphere-50/topic/com.vmware.ICbase/PDF/vsphere-esxi-vcenter-server-50-installation-setup-guide.pdf>.

Configuring the Ethernet controller

The Emulex BE3 Ethernet controller is integrated on the system board. It provides an interface for connecting to a 1 Gbps or 10 Gbps network and provides full-duplex (FDX) capability, which enables simultaneous transmission and reception of data on the network. If the Ethernet ports in the server support auto-negotiation, the controller detects the data-transfer rate (100BASE-T, 1000BASE-T, or 10GBASE-T) and duplex mode (full-duplex or half-duplex) of the network and automatically operate at that rate and mode.

You do not have to set any jumpers or configure the controller. However, you must install a device driver to enable the operating system to address the controller. For device drivers and information about configuring the Ethernet controller, see <http://www.ibm.com/supportportal/>.

Enabling Features on Demand Ethernet software

You can activate the Features on Demand (FoD) software upgrade key for Fibre Channel over Ethernet (FCoE) and iSCSI storage protocols that is integrated in the integrated management module. For more information and instructions for activating the Features on Demand Ethernet software key, see the *IBM Features on Demand User's Guide*. To download the document, go to <http://www.ibm.com/systems/x/fod/>, log in, and click **Help**.

Enabling Features on Demand RAID software

Integrated into the integrated management module is a Features on Demand RAID software upgrade key that you can activate to get support for RAID levels 5 and 50 or 6 and 60 (depending on the Features on Demand key). For more information and instructions for activating the Feature On Demand RAID software key, see the *IBM Features on Demand User's Guide*. To download the document, go to <http://www.ibm.com/systems/x/fod/>, log in, and click **Help**.

Configuring RAID arrays

Through the Setup utility, you can access utilities to configure RAID arrays. The specific procedure for configuring arrays depends on the RAID controller that you are using. For details, see the documentation for your RAID controller. To access the utility for your RAID controller, complete the following steps:

1. Turn on the server.

Note: Approximately 10 seconds after the server is connected to ac power, the power-on button becomes active.

2. When prompted, <F1> Setup is displayed, press F1. If you have set an administrator password, you must type the administrator password to access the full Setup utility menu. If you do not type the administrator password, a limited Setup utility menu is available.
3. Select **System Settings → Storage**.
4. Press Enter to refresh the list of device drivers.
5. Select the device driver for your RAID controller and press Enter.
6. Follow the instructions in the documentation for your RAID controller.

IBM Advanced Settings Utility program

The IBM Advanced Settings Utility (ASU) program is an alternative to the Setup utility for modifying UEFI settings. Use the ASU program online or out of band to modify UEFI settings from the command line without the need to restart the system to access the Setup utility.

You can also use the ASU program to configure the optional remote presence features or other IMM settings. The remote presence features provide enhanced systems-management capabilities.

In addition, the ASU program provides limited settings for configuring the IPMI function in the IMM through the command-line interface.

Use the command-line interface to issue setup commands. You can save any of the settings as a file and run the file as a script. The ASU program supports scripting environments through a batch-processing mode.

For more information and to download the ASU program, go to <http://www.ibm.com/systems/support/supportsite.wss/docdisplay?Indocid=TOOL-ASU&brandind=5000008>.

Updating IBM Systems Director

If you plan to use IBM Systems Director to manage the server, you must check for the latest applicable IBM Systems Director updates and interim fixes.

Note: Changes are made periodically to the IBM website. The actual procedure might vary slightly from what is described in this document.

To locate and install a newer version of IBM Systems Director, complete the following steps:

1. Check for the latest version of IBM Systems Director:
 - a. Go to <http://www.ibm.com/systems/software/director/downloads/index.html>.
 - b. If a newer version of IBM Systems Director than what comes with the server is shown in the drop-down list, follow the instructions on the web page to download the latest version.
2. Install the IBM Systems Director program.

If your management server is connected to the Internet, to locate and install updates and interim fixes, complete the following steps:

1. Make sure that you have run the Discovery and Inventory collection tasks.

2. On the Welcome page of the IBM Systems Director Web interface, click **View updates**.
3. Click **Check for updates**. The available updates are displayed in a table.
4. Select the updates that you want to install, and click **Install** to start the installation wizard.

If your management server is not connected to the Internet, to locate and install updates and interim fixes, complete the following steps:

1. Make sure that you have run the Discovery and Inventory collection tasks.
2. On a system that is connected to the Internet, go to <http://www.ibm.com/support/fixcentral/>.
3. From the **Product family** list, select **IBM Systems Director**.
4. From the **Product** list, select **IBM Systems Director**.
5. From the **Installed version** list, select the latest version, and click **Continue**.
6. Download the available updates.
7. Copy the downloaded files to the management server.
8. On the management server, on the Welcome page of the IBM Systems Director Web interface, click the **Manage** tab, and click **Update Manager**.
9. Click **Import updates** and specify the location of the downloaded files that you copied to the management server.
10. Return to the Welcome page of the Web interface, and click **View updates**.
11. Select the updates that you want to install, and click **Install** to start the installation wizard.

Updating the Universal Unique Identifier and DMI/SMBIOS data

After the system board is replaced, you must update the Universal Unique Identifier (UUID) and DMI/SMBIOS data in the integrated management module (IMM) on the new system board. You can use the Advanced Settings Utility (ASU) and any of the following access methods to update the UUID and DMI/SMBIOS data:

- Locally (in-band)
 - Through the Keyboard Controller Style (KCS) interface
 - Through the LAN over USB interface
- Remotely over a LAN

You can use the ASU under any supported operating system, or you can use the Bootable Media Creator or a Windows- or Linux-based toolkit to create Windows Professional Edition or Master Control Program (MCP) bootable media that contains the ASU. For information about the Advanced Settings Utility (ASU), see the *Advanced Settings Utility User's Guide* and instructions for downloading and unpacking the ASU code at <http://www.ibm.com/support/entry/portal/docdisplay?lnidocid=TOOL-ASU>.

For instructions for updating the UUID and DMI/SMBIOS data, using the different methods for accessing the IMM, see “Locally: Keyboard Controller Style (KCS)” on page 140, “Locally: LAN over USB” on page 140, and “Remotely over a LAN” on page 141. The following conventions apply to the command syntax:

- Variables are shown in *italics*.
- Optional parameters are enclosed in brackets ([]). Do not type the brackets in the commands. If you omit an optional parameter, the default is used.
- Although the command syntax is shown in mixed case, the commands are not case sensitive.

Locally: Keyboard Controller Style (KCS)

This access method uses the IPMI/KCS interface. The IPMI driver must be installed; with some operating systems, the IPMI driver is installed by default. The Advanced Settings Utility (ASU) provides the corresponding mapping layer. To update the UUID, in the ASU command-line interface, enter the following command:

```
asu set SYSTEM_PROD_DATA.SysInfoUUID uuid
```

where *uuid* is the user-assigned hexadecimal value, up to 16 bytes, that identifies the server.

To update the DMI/SMBIOS data, complete the following steps:

1. In the ASU command-line interface, enter the following command:

```
asu set SYSTEM_PROD_DATA.SysInfoProdName xxxxyyy
```

where:

xxxx is the 4-digit machine type of the server.

yyy is the 3-digit model number of the server.

2. Enter the following command:

```
asu set SYSTEM_PROD_DATA.SysInfoSerialNum zzzzzzz
```

where *zzzzzzz* is the 7-character serial number of the server.

3. Enter the following command:

```
asu set SYSTEM_PROD_DATA.SysEncloseAssetTag  
aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
```

where *aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa* is the 33-character asset tag number of the server.

Locally: LAN over USB

To update the UUID, in the ASU command-line interface, enter the following command:

Note: If you omit any optional parameter, the default value is used. If one or more default values are used and the ASU cannot access the IMM by using the LAN over USB access method, the ASU automatically uses the KCS access method.

```
asu set SYSTEM_PROD_DATA.SysInfoUUID uuid [--host ipaddress]  
[--user userid] [--password password]
```

where:

uuid is the user-assigned hexadecimal value, up to 16 bytes, that identifies the server.

ipaddress

is the internal LAN/USB IP address of the IMM. The default is 169.254.95.118.

userid is the IMM account name (1 of 12 accounts). The default is USERID.

password

is the IMM account password (1 of 12 accounts). The default is PASSWORD (with a zero, not the letter O).

To update the DMI/SMBIOS data, complete the following steps:

1. In the ASU command-line interface, enter the following command:

```
asu set SYSTEM_PROD_DATA.SysInfoProdName xxxxyyy [--host ipaddress]  
      [--user userid] [--password password]
```

where:

xxxx is the 4-digit machine type of the server.

yyy is the 3-digit model number of the server.

ipaddress

is the internal LAN/USB IP address of the IMM. The default is 169.254.95.118.

userid is the IMM account name (1 of 12 accounts). The default is USERID.

password

is the IMM account password (1 of 12 accounts). The default is PASSWORD (with a zero, not the letter O).

2. Enter the following command:

```
asu set SYSTEM_PROD_DATA.SysInfoSerialNum zzzzzzz [--host ipaddress]  
      [--user userid] [--password password]
```

where *zzzzzzz* is the 7-character serial number of the server.

3. Enter the following command:

```
asu set SYSTEM_PROD_DATA.SysEncloseAssetTag  
      aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa [--host ipaddress]  
      [--user userid] [--password password]
```

where *aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa* is the 33-character asset tag number of the server.

Remotely over a LAN

To update the UUID in the ASU command-line interface, enter the following command:

Note: If you omit any optional parameter, the default value is used.

```
asu set SYSTEM_PROD_DATA.SysInfoUUID uuid --host ipaddress  
      [--user userid] [--password password]
```

where:

uuid is the user-assigned hexadecimal value, up to 16 bytes, that identifies the server.

ipaddress

is the external LAN IP address of the IMM.

userid is the IMM account name (1 of 12 accounts). The default is USERID.

password

is the IMM account password (1 of 12 accounts). The default is PASSWORD (with a zero, not the letter O).

To update the DMI/SMBIOS data, complete the following steps:

1. In the ASU command-line interface, enter the following command:

```
asu set SYSTEM_PROD_DATA.SysInfoProdName xxxxyyy --host ipaddress
    [--user userid] [--password password]
```

where:

xxxx is the 4-digit machine type of the server.

yyy is the 3-digit model number of the server.

ipaddress

is the external LAN IP address of the IMM.

userid is the IMM account name (1 of 12 accounts). The default is USERID.

password

is the IMM account password (1 or 12 accounts). The default is
PASSWORD (with a zero, not the letter O).

2. Enter the following command:

```
asu set SYSTEM_PROD_DATA.SysInfoSerialNum zzzzzzz --host ipaddress
    [--user userid] [--password password]
```

where *zzzzzzz* is the 7-character serial number of the server.

3. Enter the following command:

```
asu set SYSTEM_PROD_DATA.SysEncloseAssetTag
    aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa --host ipaddress
    [--user userid] [--password password]
```

where *aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa* is the 33-character asset tag number of the server.

Chapter 4. Troubleshooting

This chapter describes the diagnostic tools and troubleshooting information that are available to help you solve problems that might occur in the server.

If you cannot diagnose and correct a problem by using the information in this chapter, see Appendix E, “Getting help and technical assistance,” on page 497 for more information.

Start here

You can solve many problems without outside assistance by following the troubleshooting procedures in this documentation and on the World Wide Web.

This document describes the diagnostic tests that you can perform, troubleshooting procedures, and explanations of error messages and error codes. The documentation that comes with your operating system and software also contains troubleshooting information.

Diagnosing a problem

Before you contact IBM or an approved warranty service provider, follow these procedures in the order in which they are presented to diagnose a problem with your server.

1. **Return the server to the condition it was in before the problem occurred.** If any hardware, software, or firmware was changed before the problem occurred, if possible, reverse those changes. This might include any of the following items:
 - Hardware components
 - Device drivers and firmware
 - System software
 - UEFI firmware
 - System input power or network connections
2. **View the light path diagnostics LEDs and event logs.** The server is designed for ease of diagnosis of hardware and software problems.
 - **Light path diagnostics LEDs:** See “Light path diagnostics” on page 149 for information about using light path diagnostics LEDs.
 - **Event logs:** See “Event logs” on page 159 for information about notification events and diagnosis.
 - **Software or operating-system error codes:** See the documentation for the software or operating system for information about a specific error code. See the manufacturer's website for documentation.
3. **Run IBM Dynamic System Analysis (DSA) and collect system data.** Run Dynamic System Analysis (DSA) to collect information about the hardware, firmware, software, and operating system. Have this information available when you contact IBM or an approved warranty service provider. For instructions for running DSA, see the *Dynamic System Analysis Installation and User's Guide*.

To download the latest version of DSA code and the *Dynamic System Analysis Installation and User's Guide*, go to <http://www.ibm.com/support/entry/portal/docdisplay?lnocid=SERV-DSA>.

4. **Check for and apply code updates.** Fixes or workarounds for many problems might be available in updated UEFI firmware, device firmware, or device drivers. To display a list of available updates for the server, go to <http://www.ibm.com/support/fixcentral>.

Attention: Installing the wrong firmware or device-driver update might cause the server to malfunction. Before you install a firmware or device-driver update, read any readme and change history files that are provided with the downloaded update. These files contain important information about the update and the procedure for installing the update, including any special procedure for updating from an early firmware or device-driver version to the latest version.

Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

- a. **Install UpdateXpress system updates.** You can install code updates that are packaged as an UpdateXpress System Pack or UpdateXpress CD image. An UpdateXpress System Pack contains an integration-tested bundle of online firmware and device-driver updates for your server. In addition, you can use IBM ToolsCenter Bootable Media Creator to create bootable media that is suitable for applying firmware updates and running preboot diagnostics. For more information about UpdateXpress System Packs, see “Updating the firmware” on page 121. For more information about the Bootable Media Creator, see <http://www.ibm.com/support/entry/portal/docdisplay?lnocid=TOOL-BOMC>.

Be sure to separately install any listed critical updates that have release dates that are later than the release date of the UpdateXpress System Pack or UpdateXpress image (see step 4b).

- b. **Install manual system updates.**

- 1) **Determine the existing code levels.**

In DSA, click **Firmware/VPD** to view system firmware levels, or click **Software** to view operating-system levels.

- 2) **Download and install updates of code that is not at the latest level.**

To display a list of available updates for the server, go to <http://www.ibm.com/support/fixcentral>.

When you click an update, an information page is displayed, including a list of the problems that the update fixes. Review this list for your specific problem; however, even if your problem is not listed, installing the update might solve the problem.

5. **Check for and correct an incorrect configuration.** If the server is incorrectly configured, a system function can fail to work when you enable it; if you make an incorrect change to the server configuration, a system function that has been enabled can stop working.
 - a. **Make sure that all installed hardware and software are supported.** See <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us> to verify that the server supports the installed operating system, optional devices, and software levels. If any hardware or software component is not supported, uninstall it to determine whether it is causing the problem. You must remove nonsupported hardware before you contact IBM or an approved warranty service provider for support.

Checkout procedure

The checkout procedure is the sequence of tasks that you should follow to diagnose a problem in the server.

About the checkout procedure

Before you perform the checkout procedure for diagnosing hardware problems, review the following information:

- Read the safety information that begins on page “Safety” on page vii.
- IBM Dynamic System Analysis (DSA) provides the primary methods of testing the major components of the server, such as the system board, Ethernet controller, keyboard, mouse (pointing device), serial ports, and hard disk drives. You can also use them to test some external devices. If you are not sure whether a problem is caused by the hardware or by the software, you can use the diagnostic programs to confirm that the hardware is working correctly.
- When you run DSA, a single problem might cause more than one error message. When this happens, correct the cause of the first error message. The other error messages usually will not occur the next time you run DSA.

Exception: If multiple error codes or light path diagnostics LEDs indicate a microprocessor error, the error might be in the microprocessor or in the microprocessor socket. See “Microprocessor problems” on page 175 for information about diagnosing microprocessor problems.

- Before you run diagnostic programs, you must determine whether the failing server is part of a shared hard disk drive cluster (two or more servers sharing external storage devices). If it is part of a cluster, you can run all diagnostic programs except the ones that test the storage unit (that is, a hard disk drive in the storage unit) or the storage adapter that is attached to the storage unit. The failing server might be part of a cluster if any of the following conditions is true:
 - You have identified the failing server as part of a cluster (two or more servers sharing external storage devices).
 - One or more external storage units are attached to the failing server and at least one of the attached storage units is also attached to another server or unidentifiable device.
 - One or more servers are located near the failing server.

Important: If the server is part of a shared hard disk drive cluster, run one test at a time. Do not run any suite of tests, such as “quick” or “normal” tests, because this might enable the hard disk drive diagnostic tests.

- If the server is halted and a POST error code is displayed, see Appendix A, “UEFI/POST error codes,” on page 293. If the server is halted and no error message is displayed, see “Troubleshooting by symptom” on page 166 and “Solving undetermined problems” on page 183.
- For information about power-supply problems, see “Solving power problems” on page 182 and “Power-supply LEDs” on page 156.
- For intermittent problems, check the event log; see “Event logs” on page 159 and Appendix C, “DSA messages,” on page 309.

Performing the checkout procedure

To perform the checkout procedure, complete the following steps:

1. Is the server part of a cluster?
 - **No:** Go to step 2 on page 147.

- **Yes:** Shut down all failing servers that are related to the cluster. Go to step 2.
- 2. Complete the following steps:
 - a. Check the power supply LEDs (see “Power-supply LEDs” on page 156).
 - b. Turn off the server and all external devices.
 - c. Check all internal and external devices for compatibility at <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/>.
 - d. Check all cables and power cords.
 - e. Set all display controls to the middle positions.
 - f. Turn on all external devices.
 - g. Turn on the server. If the server does not start, see “Troubleshooting by symptom” on page 166.
 - h. Check the system-error LED on the operator information panel. If it is lit, check the light path diagnostics LEDs (see “Light path diagnostics” on page 149).
 - i. Check for the following results:
 - Successful completion of POST (see “POST” on page 162 for more information)
 - Successful completion of startup, which is indicated by a readable display of the operating-system desktop
- 3. Is there a readable image on the monitor screen?
 - **No:** Find the failure symptom in “Troubleshooting by symptom” on page 166; if necessary, see “Solving undetermined problems” on page 183.
 - **Yes:** Run DSA (see “Running the DSA Preboot diagnostic programs” on page 164).
 - If DSA reports an error, follow the instructions in Appendix C, “DSA messages,” on page 309.
 - If DSA does not report an error but you still suspect a problem, see “Solving undetermined problems” on page 183.

Diagnostic tools

The following tools are available to help you diagnose and solve hardware-related problems:

- **Light path diagnostics**

Use light path diagnostics to diagnose system errors quickly. See “Light path diagnostics” on page 149 for more information.

- **Event logs**

The event logs list the error codes and messages that are generated when an error is detected for the subsystems IMM2, POST, DSA, and the server baseboard management controller. See “Event logs” on page 159 for more information.

- **Integrated management module II**

The integrated management module II (IMM2) combines service processor functions, video controller, and remote presence and blue-screen capture features in a single chip. The IMM provides advanced service-processor control, monitoring, and alerting function. If an environmental condition exceeds a threshold or if a system component fails, the IMM lights LEDs to help you diagnose the problem, records the error in the IMM event log, and alerts you to the problem. Optionally, the IMM also provides a virtual presence capability for

remote server management capabilities. The IMM provides remote server management through the following industry-standard interfaces:

- Intelligent Platform Management Protocol (IPMI) version 2.0
- Simple Network Management Protocol (SNMP) version 3
- Common Information Model (CIM)
- Web browser

For more information about the integrated management module II (IMM2), see “Using the integrated management module” on page 132, Appendix D, “Integrated management module II (IMM2) error messages,” on page 337, and the *Integrated Management Module II User’s Guide* at <http://www.ibm.com/support/entry/portal/docdisplay?lnidocid=MIGR-5089484>.

- **IBM Dynamic System Analysis**

Two editions of IBM Dynamic System Analysis (DSA) are available for diagnosing problems, DSA Portable and DSA Preboot:

- DSA Portable

DSA Portable collects and analyzes system information to aid in diagnosing server problems. DSA Portable runs on the server operating system and collects the following information about the server:

- Drive health information
- Event logs for ServeRAID controllers and service processors
- Installed hardware, including PCI and USB information
- Installed applications and hot fixes
- Kernel modules
- Light path diagnostics status
- Microprocessor, input/out hub, and UEFI error logs
- Network interfaces and settings
- RAID controller configuration
- Service processor (integrated management module) status and configuration
- System configuration
- Vital product data, firmware, and UEFI configuration

DSA Portable creates a DSA log, which is a chronologically ordered merge of the system-event log (as the IPMI event log), the integrated management module (IMM) event log (as the ASM event log), and the operating-system event logs. You can send the DSA log as a file to IBM Support (when requested by IBM Support) or view the information as a text file or HTML file.

Note: Use the latest available version of DSA to make sure you are using the most recent configuration data. For documentation and download information for DSA, see <http://www.ibm.com/systems/management/>.

For additional information, see “IBM Dynamic System Analysis” on page 162 and Appendix C, “DSA messages,” on page 309.

- DSA Preboot

DSA Preboot diagnostic program is stored in the integrated USB memory on the server. DSA Preboot collects and analyzes system information to aid in diagnosing server problems, as well as offering a rich set of diagnostic tests of the major components of the server. DSA Preboot collects the following information about the server:

- Drive health information
- Event logs for ServeRAID controllers and service processors
- Installed hardware, including PCI and USB information
- Light path diagnostics status
- Microprocessor, input/output hub, and UEFI error logs
- Network interfaces and settings
- RAID controller configuration
- Service processor (integrated management module) status and configuration
- System configuration
- Vital product data, firmware, and UEFI configuration

DSA Preboot also provides diagnostics for the following system components (when they are installed):

1. Emulex network adapter
2. IMM I2C bus
3. Light path diagnostics panel
4. Memory modules
5. Microprocessors
6. Optical devices (CD or DVD)
7. SAS or SATA drives

See “Running the DSA Preboot diagnostic programs” on page 164 for more information on running the DSA Preboot program on the server.

- **Troubleshooting by symptom**

These tables list problem symptoms and actions to correct the problems. See “Troubleshooting by symptom” on page 166 for more information.

Light path diagnostics

Light path diagnostics is a system of LEDs on various external and internal components of the server that leads you to the failed component. When an error occurs, LEDs are lit along the path of the front panel, the light path diagnostics panel, then on the failed component. By viewing the LEDs in a particular order, you can often identify the source of the error.

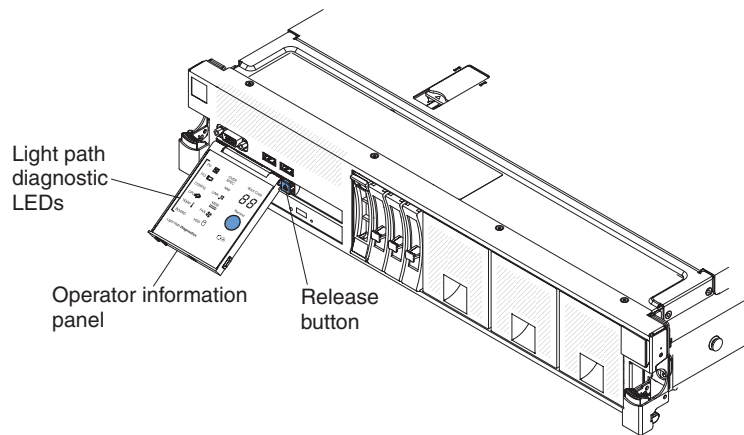
When LEDs are lit to indicate an error, they remain lit when the server is turned off, provided that the server is still connected to power and the power supply is operating correctly.

Before you work inside the server to view light path diagnostics LEDs, read the safety information that begins on page “Safety” on page vii and “Handling static-sensitive devices” on page 35.

If an error occurs, view the light path diagnostics LEDs in the following order:

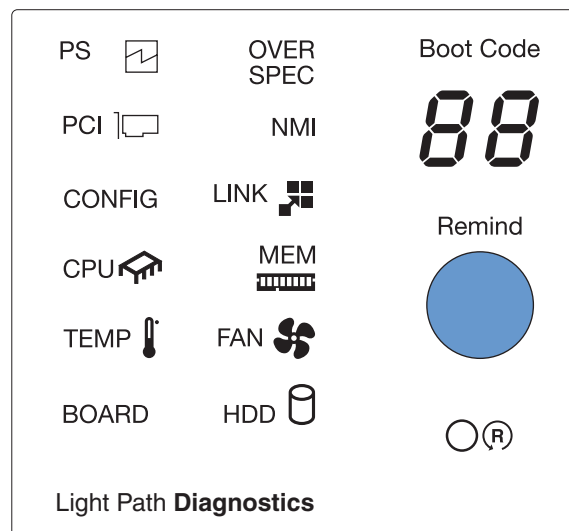
1. Look at the operator information panel on the front of the server.
 - If the check log LED is lit, it indicates that information about an un-isolated fault condition in the server is available in the IMM event log or in the system-event log.
 - If the system-error LED is lit, it indicates that an error has occurred; go to step 2.

The following illustration shows the operator information panel.



2. To view the light path diagnostics panel, press in on the blue release button on the operator information panel and pull forward on the panel until the hinge of the operator information panel is free of the server chassis. Then, pull down on the panel so that you can view the light path diagnostics panel information. This reveals the light path diagnostics panel. Lit LEDs on this panel indicate the type of error that has occurred.

The following illustration shows the light path diagnostics panel.



Note any LEDs that are lit, and then slide the light path diagnostics panel back into the server.

- **Remind button:** Press this button to place the system-error LED on the front information panel into Remind mode. By placing the system-error LED indicator in Remind mode, you acknowledge that you are aware of the last failure but will not take immediate action to correct the problem. In Remind mode, the system-error LED flashes every 2 seconds until one of the following conditions occurs:
 - All known errors are corrected.
 - The server is restarted.
 - A new error occurs, causing the system-error LED to be lit again.
- **Boot code display:** This display provides an error code that indicates the point at which the system stopped during the boot block and POST. A boot code is either a byte or a word value that is produced by UEFI. This display will provide error codes in the event of a microprocessor error or a power fault. In addition to the IMM log, the codes can provide suggested

components to be replaced. For more information about the error codes displayed in the boot code display area on the light path diagnostics panel and the actions to take, see Appendix B, “Boot code display error codes,” on page 305.

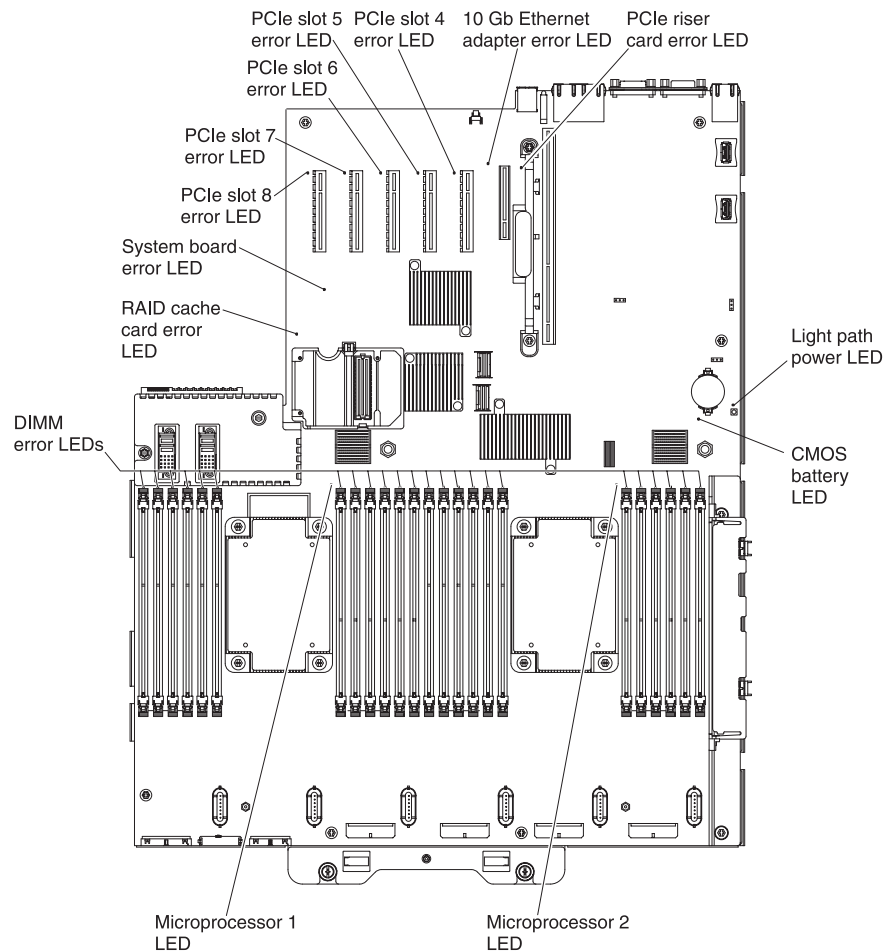
- **Reset button:** Press this button to reset the server and run the power-on self-test (POST). You might have to use a pen or the end of a straightened paper clip to press the button. The Reset button is in the lower-right corner of the light path diagnostics panel.

The system service label inside the server cover provides an overview of internal components that correspond to the LEDs on the light path diagnostics panel. This information and the information in “Light path diagnostics LEDs” on page 152 can often provide enough information to diagnose the error.

3. Remove the server cover and look inside the server for lit LEDs. Certain components inside the server have LEDs that are lit to indicate the location of a problem.

Note: You do not have to remove the server cover to view the LEDs on hard disk drives and power supplies.

The following illustration shows the LEDs and connectors on the system board.



The following illustration shows the LEDs on the optional microprocessor and memory expansion tray.

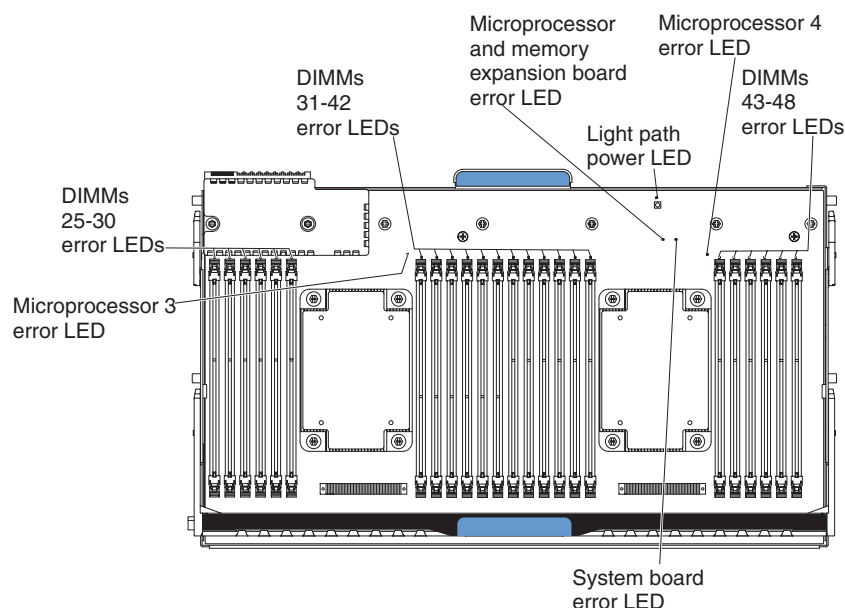


Table 21. Microprocessor and memory expansion tray LEDs

LEDs	Description
Light path power LED	When this LED is lit, it indicates that the capacitor on the microprocessor and memory expansion tray has sufficient power to light the error LEDs.
Microprocessor and memory expansion tray board error LED	When this LED is lit, it indicates that the microprocessor and memory expansion tray board has failed.
System board error LED	When this LED is lit, it indicates that an error has occurred on the base system board.

Light path diagnostics LEDs

The following table describes the LEDs on the light path diagnostics panel and suggested actions to correct the detected problems. For additional information, see “Server controls, LEDs, and power” on page 15 and the “System-board LEDs” on page 30 for the location of the system board LEDs.

Note: Check the IMM event log or the system-event log for additional information before you replace a FRU.

Table 22. Light path diagnostics panel LEDs

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 3, "Parts listing", to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If a action step is preceded by "(Trained service technician only)," that step must be performed only by a trained service technician. 		
LED	Description	Action
None, but the system error LED is lit.	An error has occurred and cannot be isolated. The error is not represented by a path.	Use the Setup utility to check the system event log for information about the error (see “Using the Setup utility” on page 125).

Table 22. Light path diagnostics panel LEDs (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 3, "Parts listing", to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If a action step is preceded by "(Trained service technician only)," that step must be performed only by a trained service technician. 		
LED	Description	Action
PS	A power supply has failed.	<ol style="list-style-type: none"> 1. Check the power-supply in the server that has an lit amber LED (see "Power-supply LEDs" on page 156). 2. Make sure that the power supplies are seated correctly. 3. Remove one of the power supplies to isolate the failed power supply. 4. Replace the failed power supply.
OVER SPEC	The server is using more power than the power supplies can output.	<ol style="list-style-type: none"> 1. Install an additional power supply or change the input power source from 110 V to 220 V. 2. Remove any recently installed options. 3. Restart the server to see whether the problem remains.
PCI	An error has occurred on a PCI bus on the system board or on the PCI riser card. An additional LED might be lit on one of the PCI slots on the system board or the riser card.	<ol style="list-style-type: none"> 1. Check the IMM event log for information about the error. 2. Check the LEDs on the system board or PCI riser card to identify the component that caused the error. 3. If you cannot isolate the failing adapter by using the LEDs and the information in the IMM event log, remove one adapter at a time from the failing PCI bus; and restart the server after each adapter is removed. 4. Replace the following components, in the order shown, restarting the server each time: <ul style="list-style-type: none"> • PCI riser card • (Trained service technician only) Replace the system board.
NMI	A nonmaskable interrupt has occurred.	Check the IMM event log for information about the error.
CONFIG	A hardware configuration error has occurred.	<ol style="list-style-type: none"> 1. If the CONFIG LED and the CPU LED are lit, complete the following steps to correct the problem: <ol style="list-style-type: none"> a. Check the microprocessors that were just installed to make sure that they are compatible with each other (see "Installing an additional microprocessor and heat sink" on page 85 for additional information about microprocessor requirements) and use the Setup utility and select System Information → System Summary → Processor to verify the microprocessors information. b. (Trained service technician only) Replace the incompatible microprocessor. c. Check the IMM event logs for information about the error. Replace any components that are identified in the error log. 2. If the CONFIG LED and the MEM LED are both lit, complete the following steps: <ol style="list-style-type: none"> a. Make sure that the DIMM configuration is supported (see "Installing a memory module" on page 40 for DIMM requirements and installation sequence information). b. Replace the DIMMs with a supported configuration.
LINK	Reserved.	

Table 22. Light path diagnostics panel LEDs (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 3, "Parts listing", to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If a action step is preceded by "(Trained service technician only)," that step must be performed only by a trained service technician. 		
LED	Description	Action
CPU	An invalid microprocessor configuration or a microprocessor has failed (both the CPU LED and the CONFIG LED might be lit).	<ol style="list-style-type: none"> If the CONFIG LED is lit, the system issues an invalid microprocessor configuration error, see the CONFIG LED action plan on page 153 for more information. If the CPU LED is lit and the CONFIG LED is not lit, complete the following steps: <ol style="list-style-type: none"> (Trained service technician only) Make sure that the failing microprocessor, which is indicated by a lit LED on the system board or microprocessor and memory expansion tray, is installed correctly. See "Replacing a microprocessor and heat sink" on page 265 for more information. If there is no microprocessor and memory expansion tray installed, remove the DIMM air baffle and check the LEDs on the system board to see which microprocessor LED is lit, then do the following: <ol style="list-style-type: none"> Check the IMM event logs for information about the error. Replace any components that are identified in the error log. (Trained service technician only) Replace the microprocessor. If the microprocessor and memory expansion tray is installed, do the following: <ol style="list-style-type: none"> Check the LEDs on the microprocessor and memory expansion tray. If one of the microprocessor LEDs is lit, do the following: <ol style="list-style-type: none"> (Trained service technician only) Replace the microprocessor. If the System board error LED is lit on the microprocessor and memory expansion tray, do the following: <ol style="list-style-type: none"> Turn off the server. Remove the top cover and the microprocessor and memory expansion tray; then, press the light path button on the system board to light the LEDs associated with the failed microprocessor (See "System-board LEDs" on page 30 for the location of the light path button). (Trained service technician only) Replace the failing microprocessor, which is indicated by the lit LED on the system board.

Table 22. Light path diagnostics panel LEDs (continued)

<ul style="list-style-type: none"> • Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. • See Chapter 3, "Parts listing", to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). • If a action step is preceded by "(Trained service technician only)," that step must be performed only by a trained service technician. 		
LED	Description	Action
MEM	An invalid memory configuration (both the MEM LED and CONFIG LED might be lit) or a memory error has occurred .	<ol style="list-style-type: none"> 1. If the MEM LED and the CONFIG LED are lit, the system issues an invalid memory configuration error. See the CONFIG LED action plan on page 153 for more information. 2. If the CONFIG LED is not lit, the system has detected a memory error. Complete the following steps to correct the problem: <ol style="list-style-type: none"> a. Turn off the server. b. Remove the top cover and press the light path button on the system board to light the LEDs (See "System-board LEDs" on page 30 for the location of the light path button). c. Check the LEDs on the server and the microprocessor and memory expansion tray. d. If there is no microprocessor and memory expansion tray installed, remove the DIMM air baffle and check the LEDs on the system board to see which DIMM LED is lit, then do the following: <ol style="list-style-type: none"> 1) Make sure that DIMM is seated correctly. 2) Replace the DIMM. e. If the microprocessor and memory expansion tray is installed, do the following: <ol style="list-style-type: none"> 1) Check the LEDs on the microprocessor and memory expansion tray. If one of the DIMM LEDs is lit, do the following: <ol style="list-style-type: none"> a) Make sure that DIMM is seated correctly. b) Replace the DIMM. 2) If the System board error LED is lit on the microprocessor and memory expansion tray, do the following: <ol style="list-style-type: none"> a) Turn off the server and disconnect it from the power source. Remove the top cover and the microprocessor and memory expansion tray; then, press the light path button on the system board to light the LEDs associated with the failed DIMM (See "System-board LEDs" on page 30 for the location of the light path button). b) Make sure that all DIMMs are seated correctly. c) Replace the failing DIMM, which is indicated by the lit DIMM latch on the system board (the DIMM LED is underneath the DIMM latch).

Table 22. Light path diagnostics panel LEDs (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 3, "Parts listing", to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If a action step is preceded by "(Trained service technician only)," that step must be performed only by a trained service technician. 		
LED	Description	Action
TEMP	The system temperature has exceeded a threshold level. A failing fan can cause the TEMP LED to be lit.	<ol style="list-style-type: none"> Make sure that the air vents are not blocked. Make sure that all fans are seated correctly. Determine whether a fan has failed (indicated by a lit LED on the fan). If it has, replace the fan. Make sure that the heat sink is seated correctly. Make sure that the room temperature is not too high. See "Server features and specifications" on page 6 and "Installation guidelines" on page 33 for the server temperature information.
FAN	A fan has failed, is operating too slowly, or has been removed. The TEMP LED might also be lit.	<ol style="list-style-type: none"> Check the LEDs on the hot-swap fan. Reseat the failing fan, which is indicated by a lit LED on the fan. Replace the failing fan.
BOARD	An error has occurred on the system board.	<ol style="list-style-type: none"> Check the LEDs on the server. Check the LEDs on the system board to identify the component that caused the error. The BOARD LED can be lit due to many reasons, for example: <ul style="list-style-type: none"> RAID cache card Battery Failed system board Check the IMM event log for information about the error. Replace any failed or missing replacement components, such as the battery. (Trained service technician only) replace the server system board.
HDD	A hard disk drive has failed or is missing.	<ol style="list-style-type: none"> Check the LEDs on the hard disk drives for the drive with a lit status LED and reseal the hard disk drive. Make sure that the cables are correctly connected to the hard disk drive backplane. For more information, see "Hard disk drive problems" on page 168. If the error remains, replace the following components in the order listed, restarting the server after each: <ol style="list-style-type: none"> Replace the hard disk drive. Replace the hard disk drive backplane. If the problem remains, go to http://www.ibm.com/systems/support/supportsite.wss/docdisplay?brandind=5000008&lnidocid=SERV-CALL.

Power-supply LEDs

The following minimum configuration is required for the AC LED on the power supply to be lit:

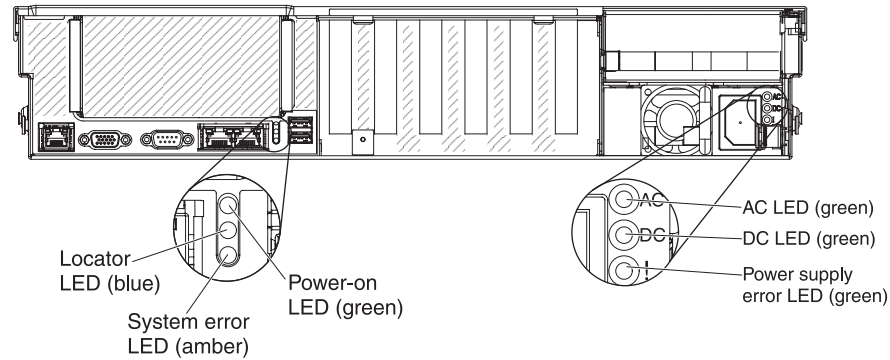
- Power supply
- Power cord

- Appropriate input power from the power source

The following minimum configuration is required for the server to start:

- One microprocessor in microprocessor socket 1
- One 4GB DIMM in a DIMM connector that is associated with microprocessor socket 1 on the system board
- One power supply
- Power cord
- Six cooling fans

The following illustration shows the locations of the power-supply LEDs.



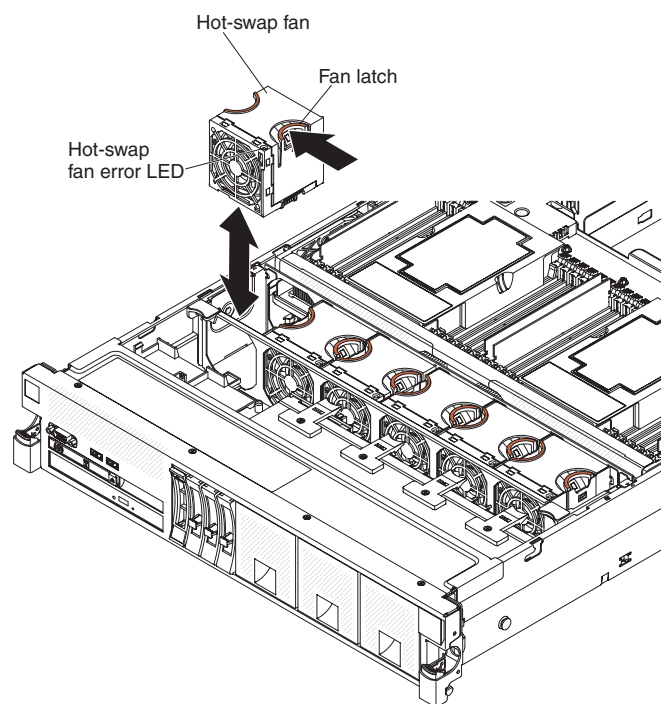
The following table describes the problems that are indicated by various combinations of the power-supply LEDs and the power-on LED on the operator information panel and suggested actions to correct the detected problems.

Power-supply LEDs			Description	Action	Notes
AC	DC	Error			
On	On	Off	Normal operation		The server is functioning correctly.
Off	Off	Off	No ac power to the server or a problem with the ac power source.	<ol style="list-style-type: none"> 1. Check the ac power to the server. 2. Make sure that the power cord is connected to a functioning power source. 3. Restart the server. If the error remains, check the power-supply LEDs. 4. Replace the power supply. 	This is a normal condition when no ac power is present.
Off	Off	On	No input power to the power supply or the power supply has detected an internal problem.	<ul style="list-style-type: none"> • Make sure that the power cord is connected to a functioning power source. • Replace the power supply. 	This happens only when a second power supply is providing power to the server.
Off	On	Off	Faulty power supply	Replace the power supply.	
Off	On	On	Faulty power supply	Replace the power supply.	
On	Off	Off	The system is off: The system is connected to ac power.		The server is functioning correctly.

Power-supply LEDs			Description	Action	Notes
AC	DC	Error			
			The system is on: Power supply not fully seated, faulty system board, or faulty power supply.	<ol style="list-style-type: none"> 1. Reseat the power supply. 2. Replace the power supply. 3. (Trained service technician only) replace the system board. 	Typically indicates a power supply is not fully seated.
On	Off	On	Faulty power supply	Replace the power supply.	
On	On	On	Faulty power supply	Replace the power supply.	

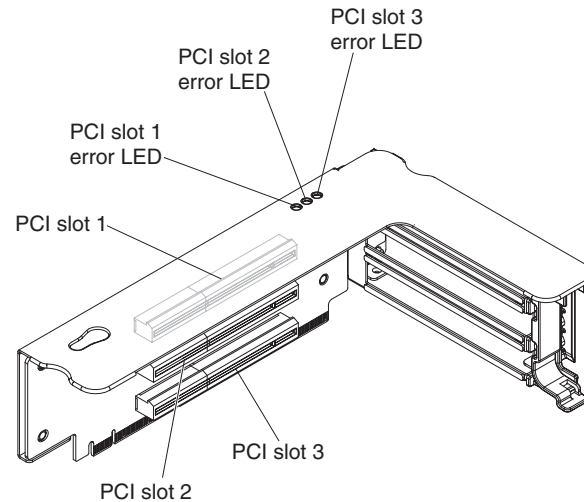
Fan LEDs

The following illustration shows the location of the fan LEDs.



PCIe riser card LEDs

The following illustration shows the location of the PCIe riser card LEDs:



Event logs

Error codes and messages are displayed in the following types of event logs:

- **POST event log:** This log contains the most recent error codes and messages that were generated during POST. You can view the contents of the POST event log from the Setup utility (see “Starting the Setup utility” on page 125). For more information about UEFI/POST error codes, see Appendix A, “UEFI/POST error codes,” on page 293.

- **System-event log:** This log contains POST and system management interrupt (SMI) events and all events that are generated by the baseboard management controller that is embedded in the integrated management module (IMM). You can view the contents of the system-event log through the Setup utility and through the Dynamic System Analysis (DSA) program (as IPMI event log).

The system-event log is limited in size. When it is full, new entries will not overwrite existing entries; therefore, you must periodically clear the system-event log through the Setup utility. When you are troubleshooting an error, you might have to save and then clear the system-event log to make the most recent events available for analysis. For more information about the system-event log, see Appendix D, “Integrated management module II (IMM2) error messages,” on page 337.

Messages are listed on the left side of the screen, and details about the selected message are displayed on the right side of the screen. To move from one entry to the next, use the Up Arrow (↑) and Down Arrow (↓) keys.

Some IMM sensors cause assertion events to be logged when their setpoints are reached. When a setpoint condition no longer exists, a corresponding deassertion event is logged. However, not all events are assertion-type events.

- **Integrated management module (IMM2) event log:** This log contains a filtered subset of all IMM, POST, and system management interrupt (SMI) events. You can view the IMM event log through the IMM web interface. For more information, see “Logging on to the IMM web interface” on page 135. You can also view the IMM event log through the Dynamic System Analysis (DSA) program (as the ASM event log). For more information about IMM error messages, see Appendix D, “Integrated management module II (IMM2) error messages,” on page 337.

- **DSA event log:** This log is generated by the Dynamic System Analysis (DSA) program, and it is a chronologically ordered merge of the system-event log (as the IPMI event log), the IMM chassis-event log (as the ASM event log), and the operating-system event logs. You can view the DSA event log through the DSA program (see “Viewing event logs without restarting the server”). For more information about DSA and DSA messages, see “IBM Dynamic System Analysis” on page 162 and Appendix C, “DSA messages,” on page 309.

For more information about viewing the logs or clearing the logs, see “Viewing event logs through the Setup utility,” “Viewing event logs without restarting the server,” and “Clearing the error logs” on page 162.

Viewing event logs through the Setup utility

To view the POST event log or system-event log, complete the following steps:

1. Turn on the server.
2. When the prompt <F1> Setup is displayed, press F1. If you have set both a power-on password and an administrator password, you must type the administrator password to view the event logs.
3. Select **System Event Logs** and use one of the following procedures:
 - To view the POST event log, select **POST Event Viewer**.
 - To view the system-event log, select **System Event Log**.

Viewing event logs without restarting the server

If the server is not hung and the IMM is connected to a network, methods are available for you to view one or more event logs without having to restart the server.

If you have installed Dynamic System Analysis (DSA) Portable, you can use it to view the system-event log (as the IPMI event log), or the IMM event log (as the ASM event log), the operating-system event logs, or the merged DSA log. You can also use DSA Preboot to view these logs, although you must restart the server to use DSA Preboot. The server comes with DSA Preboot stored in integrated USB memory. To install DSA Portable or check for and download a later version of DSA Preboot CD image, go to <http://www.ibm.com/systems/support/supportsite.wss/docdisplay?Indocid=SERV-DSA&brandind=5000008>.

If IPMITool is installed in the server, you can use it to view the system-event log. Most recent versions of the Linux operating system come with a current version of IPMITool. For an overview of IPMI, go to <http://www.ibm.com/developerworks/linux/blueprints/> and click **Using Intelligent Platform Management Interface (IPMI) on IBM Linux platforms**.

You can view the IMM event log through the **Event Log** link in the integrated management module (IMM) web interface. For more information, see “Logging on to the IMM web interface” on page 135.

The following table describes the methods that you can use to view the event logs, depending on the condition of the server. The first three conditions generally do not require that you restart the server.

Table 23. Methods for viewing event logs

Condition	Action
The server is not hung and is connected to a network (using an operating system controlled network ports).	<p>Use any of the following methods:</p> <ul style="list-style-type: none"> • Run DSA Portable to view the diagnostic event log (requires IPMI driver) or create an output file that you can send to IBM service and support (using ftp or local copy). • Use IPMItool to view the system-event log (requires IPMI driver). • Use the web browser interface to the IMM to view the system-event log locally (requires RNDIS USB LAN driver).
The server is not hung and is not connected to a network (using an operating system controlled network ports).	<p>Use any of the following methods:</p> <ul style="list-style-type: none"> • Run Portable DSA to view the diagnostic event log (requires IPMI driver) or create an output file that you can send to IBM service and support (using a local copy). • Use IPMItool to view the system-event log (requires IPMI driver). • Use the web browser interface to the IMM to view the system-event log locally (requires RNDIS USB LAN driver). For more information, see “Obtaining the IP address for the IMM” on page 135 and “Logging on to the IMM web interface” on page 135.
The integrated management module (IMM) is connected to a network, and ac power is applied. The server state might be hung, not hung, or powered off.	<p>Use any of the following methods:</p> <ul style="list-style-type: none"> • Use IPMItool over the network to the IMM external IP address to view the system-event log. • Use the web browser interface to the IMM to view the system-event log. In the Web browser, type the IP address for the IMM and go to the Event Log page. For more information, see “Obtaining the IP address for the IMM” on page 135 and “Logging on to the IMM web interface” on page 135.
The server is hung, and no communication can be made with the IMM.	<p>Restart the server and press F2 to start DSA Preboot and view the diagnostic event log (see “Running the DSA Preboot diagnostic programs” on page 164 for more information).</p> <p>Alternatively, you can restart the server and press F1 to start the Setup utility and view the POST event log or system-event log. For more information, see “Viewing event logs through the Setup utility” on page 160.</p>

Clearing the error logs

To clear the event logs, complete the following steps.

Note: The POST event log is automatically cleared each time the server is restarted.

1. Turn on the server.
2. When the prompt <F1> Setup is displayed, press F1. If you have set both a power-on password and an administrator password, you must type the administrator password to view the event logs.
3. Use one of the following procedures:
 - To clear the IMM system-event log, select **System Event Logs --> Clear System Event Log**.

POST

When you turn on the server, it performs a series of tests to check the operation of the server components and some optional devices in the server. This series of tests is called the power-on self-test, or POST.

Note: This server does not use beep codes for server status.

If a power-on password is set, you must type the password and press Enter (when you are prompted), for POST to run.

If POST detects a problem an error message is displayed. See Appendix A, "UEFI/POST error codes," on page 293 for more information.

If POST detects a problem, an error message is sent to the POST event log, see "Event logs" on page 159 for more information.

IBM Dynamic System Analysis

IBM Dynamic System Analysis (DSA) collects and analyzes system information to aid in diagnosing server problems. DSA collects the following information about the server:

- Drive health information
- Event logs for ServeRAID controllers and service processors
- Hardware inventory, including PCI and USB information
- Installed applications and hot fixes (available in DSA Portable only)
- Kernel modules (available in DSA Portable only)
- Light path diagnostics status
- Network interfaces and settings
- Performance data and details about processes that are running
- RAID controller configuration
- Service processor (integrated management module) status and configuration
- System configuration
- Vital product data and firmware information

For system-specific information about the action that you should take as a result of a message that DSA generates, see Appendix C, "DSA messages," on page 309.

If you cannot find a problem by using DSA, see "Solving undetermined problems" on page 183 for information about testing the server.

Note: DSA Preboot might appear to be unresponsive when you start the program. This is normal operation while the program loads.

Make sure that the server has the latest version of the DSA code. To obtain DSA code and the *Dynamic System Analysis Installation and User's Guide*, go to <http://www.ibm.com/systems/support/supportsite.wss/docdisplay?brandind=5000008&Indocid=SERV-DSA>.

DSA editions

Two editions of Dynamic System Analysis are available:

- **DSA Portable**

DSA Portable Edition runs within the operating system; you do not have to restart the server to run it. It is packaged as a self-extracting file that you download from the web. When you run the file, it self-extracts to a temporary folder and performs comprehensive collection of hardware and operating-system information. After it runs, it automatically deletes the temporary files and folder and leaves the results of the data collection and diagnostics on the server.

If you are able to start the server, use DSA Portable.

- **DSA Preboot**

DSA Preboot runs outside of the operating system; you must restart the server to run it. It is provided in the flash memory on the server, or you can create a bootable media such as a CD, DVD, ISO, USB, or PXE using the IBM ToolsCenter Bootable Media Creator (BoMC). For more details, see the *BoMC User Guide* at <http://www.ibm.com/systems/support/supportsite.wss/docdisplay?Indocid=TOOL-BOMC&brandind=5000016>. In addition to the capabilities of the other editions of DSA, DSA Preboot includes diagnostic routines that would be disruptive to run within the operating-system environment (such as resetting devices and causing loss of network connectivity). It has a graphical user interface that you can use to specify which diagnostics to run and to view the diagnostic and data collection results.

DSA Preboot provides diagnostics for the following system components, if they are installed:

- Emulex network adapter
- Optical devices (CD or DVD)
- Tape drives (SCSI, SAS, or SATA)
- Memory
- Microprocessor
- Checkpoint panel
- I2C bus
- SAS and SATA drives

If you are unable to restart the server or if you need comprehensive diagnostics, use DSA Preboot.

The System x3750 M4 server comes with DSA Preboot diagnostics code on the integrated USB flash memory. Utilities are available to reset and update the diagnostics code on the integrated USB flash device, if the diagnostic partition becomes damaged and does not start the DSA Preboot diagnostic programs. For more information and to download the utilities, go to <http://www.ibm.com/systems/support/supportsite.wss/docdisplay?brandind=5000008&Indocid=SERV-DSA>.

Running the DSA Preboot diagnostic programs

Note: The DSA memory test might take up to 30 minutes to run. If the problem is not a memory problem, skip the memory test.

To run the DSA Preboot diagnostic programs that is stored in integrated flash memory on the server, complete the following steps:

1. If the server is running, turn off the server and all attached devices.
2. Turn on all attached devices; then, turn on the server.
3. When the prompt <F2> Diagnostics is displayed, press F2.

Note: The DSA Preboot diagnostic program might appear to be unresponsive for an unusual length of time when you start the program. This is normal operation while the program loads.

4. Optionally, select **Quit to DSA** to exit from the stand-alone memory diagnostic program.

Note: After you exit from the stand-alone memory diagnostic environment, you must restart the server to access the stand-alone memory diagnostic environment again.

5. Select **gui** to display the graphical user interface, or select **cmd** to display the DSA interactive menu.
6. Follow the instructions on the screen to select the diagnostic test to run.

If the server stops during testing and you cannot continue, restart the server and try running the DSA Preboot diagnostic programs again. If the problem remains, replace the component that was being tested when the server stopped.

Diagnostic text messages

Diagnostic text messages are displayed while the tests are running. A diagnostic text message contains one of the following results:

Passed: The test was completed without any errors.

Failed: The test detected an error.

Aborted: The test could not proceed because of the server configuration

Additional information concerning test failures is available in the extended diagnostic results for each test.

Viewing the test log results and transferring the DSA collection

To view the test log for the results when the tests are completed, click the **Success** link in the Status column, if you are running the DSA graphical user interface, or type :x to exit the Execute Tests menu, if you are running the DSA interactive menu, or select **Diagnostic Event Log** in the graphical user interface. To transfer DSA Preboot collections to an external USB device, type the copy command in the DSA interactive menu.

- If you are running the DSA graphical user interface (GUI), click the **Success** link in the Status column.
- If you are running the DSA interactive menu (CLI), type :x to exit the Execute Tests menu; then, select **completed tests** to view the results.

You can also send the DSA error log to IBM support to aid in diagnosing the server problems.

Automated service request (call home)

IBM provides tools that can automatically collect and send data or call IBM Support when an error is detected. These tools can help IBM Support speed up the process of diagnosing problems. The following sections provide information about the call home tools.

IBM Electronic Service Agent

IBM Electronic Service Agent monitors, tracks, and captures system hardware errors and hardware and software inventory information, and reports serviceable problems directly to IBM Support. You can also choose to collect data manually. It uses minimal system resources, and can be downloaded from the IBM website. For more information and to download IBM Electronic Service Agent, go to <http://www.ibm.com/support/electronic/portal/>.

IMM first failure data capture (FFDC) feature

The integrated management module (IMM) provides a first failure data capture (FFDC) feature that you can use to collect the log data for system hardware errors into a file, which you can send to IBM Support for problem determination assistance. The following sections provide information about how to use this IMM feature to generate and download the FFDC log data file. For more information on the FFDC data download commands, see the Integrated Management Module II User's Guide at <http://www.ibm.com/support/entry/portal/docdisplay?Indocid=MIGR-5089484>.

Capturing the FFDC log using the IMM Web Interface

To generate and download the first failure data capture (FFDC) log data using the IMM Web interface, complete the following steps:

1. Log in to the IMM.
2. From the **Server and Support** tab, click the **Download Server Data** option.
3. Next, click on the **Download Now** button. A progress window displays indicating that the file is being generated. It prompts you to save the file and to provide the location in which you want the file saved to.

Capturing the FFDC log using IMM CLI commands

To generate and download the first failure data capture (FFDC) log data using IMM CLI commands, complete the following steps:

Note: You must have an tftp or sftp server setup prior to using this procedure.

1. First, set up a tftp or sftp server.
2. Log in to the IMM using Telnet or SSH Server.
3. At the command prompt, type **ffdc generate**.

Note: You can also use the status command to check the progress of the file generation. You can use the copy command to obtain a copy of the existing log data file and the delete command to delete the existing log data file.

4. Next, type **ffdc status** to check the status.
5. You can wait until the file is generated, or you can type **ffdc copy -IP host address** (where *host address* is the IP address for the tftp or sftp server). The file will be copied to your tftp server or sftp server.

6. Type **exit** to exit the session when you are done.

Capturing the FFDC log using IPMI commands

To generate and download the first failure data capture (FFDC) log data using IPMI commands, complete the following steps:

Note: For this procedure, you will need to use a tool such as IPMITool to communicate with IMM.

1. From a host system, type the command: `ipmitool -I lanplus -H 169.254.95.118 -U USERID -P PASSWORD raw 0x3a 0x49 0x1` (where 169.254.95.118 is the IMM IP address). Make sure that you replace this IP address with your IP address.
2. Wait 2 to 3 minutes, then type: `ipmitool -I lanplus -H 169.254.95.118 -U USERID -P PASSWORD raw 0x3a 0x4d 0x01`. If you receive a response of 01, the ffdc log data is ready to download. If you do not get a response of 01, wait longer and send this command again..
3. Next, type the command: `wget ftp://192.168.5.199:121/download/ffdc/*.tgz -user immftp -password imm4tw`. This command downloads the ffdc file to your local environment.

Error messages

For the list of error codes and messages for UEFI/POST, IMM2, boot code display error codes, and DSA that are generated when a problem is detected, see Appendix A, “UEFI/POST error codes,” on page 293, Appendix D, “Integrated management module II (IMM2) error messages,” on page 337, Appendix B, “Boot code display error codes,” on page 305, and Appendix C, “DSA messages,” on page 309.

Troubleshooting by symptom

Use the troubleshooting tables to find solutions to problems that have identifiable symptoms. The information in the tables cover events that might occur that do not produce a log event entry or turn on an LED.

If you cannot find a solution to the problem in these tables, see Appendix C, “DSA messages,” on page 309 for information about testing the server and “Running the DSA Preboot diagnostic programs” on page 164 for additional information about running the DSA Preboot program that is stored in integrated USB memory on the server. For additional information to help you solve problems, see “Start here” on page 143.

If you have just added new software or a new optional device and the server is not working, complete the following steps before you use the troubleshooting tables:

1. Check the system-error LED on the operator information panel; if it is lit, check the light path diagnostics LEDs (see “Light path diagnostics” on page 149).
2. Remove the software or device that you just added.
3. Run IBM Dynamic System Analysis (DSA) to determine whether the server is running correctly (for information about using DSA, see Appendix C, “DSA messages,” on page 309).
4. Reinstall the new software or new device.

CD/DVD drive problems

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 	
Symptom	Action
The CD-ROM/DVD-ROM drive is not recognized.	<ol style="list-style-type: none"> Check the IMM event log for events associated with CD-ROM/DVD-ROM drive. Make sure that: <ul style="list-style-type: none"> The CD or DVD is recognized and enabled in the Setup utility (see "Starting the Setup utility" on page 125 for more information). If the CD or DVD is not recognized: <ul style="list-style-type: none"> Check the CD or DVD cables and jumpers for damage and to make sure that they are connected correctly The correct device driver is installed for the CD or DVD drive. The CD or DVD is enabled in the operating system. Run the CD or DVD drive diagnostic programs (See "Running the DSA Preboot diagnostic programs" on page 164). Replace the CD or DVD drive. (Trained service technician only) Replace the system board.
A CD or DVD is not working correctly.	<ol style="list-style-type: none"> Clean the CD or DVD. Replace the CD or DVD with new CD or DVD media. Run the CD or DVD drive diagnostic programs (see "Running the DSA Preboot diagnostic programs" on page 164). Reseat the CD or DVD drive (see "Removing a CD/DVD drive" on page 211 and "Replacing a CD/DVD drive" on page 212). Make sure that the cable is connected to the system board correctly and connected to the correct SATA port. Replace the CD or DVD drive.
The CD or DVD drive tray is not working but the drive is recognized.	<ol style="list-style-type: none"> Make sure that the server is turned on and the CD or DVD drive is enabled in the Setup utility (see "Starting the Setup utility" on page 125). Note: The CD or DVD eject button might be disabled if you are starting the server from a CD or DVD. Insert the end of a straightened paper clip into the manual tray-release opening. Reseat the CD or DVD drive (see "Removing a CD/DVD drive" on page 211 and "Replacing a CD/DVD drive" on page 212). Replace the CD or DVD drive.

Hypervisor problems

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
If an optional embedded hypervisor flash device is not listed in the expected boot order, does not appear in the list of boot devices, or a similar problem has occurred.	<ol style="list-style-type: none">1. Make sure that the optional embedded hypervisor flash device is selected on the boot manager (<F12> Select Boot Device) at startup.2. Make sure that the embedded hypervisor flash device is seated in the connector correctly (see “Removing a USB embedded hypervisor flash device” on page 228 and “Replacing a USB embedded hypervisor flash device” on page 229).3. See the documentation that comes with the optional embedded hypervisor flash device for setup and configuration information.4. Make sure that other software works on the server.

General problems

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
A cover latch is broken, an LED is not working, or a similar problem has occurred.	If the part is a CRU, replace it. If the part is a FRU, the part must be replaced by a trained service technician (see Chapter 6, “Removing and replacing components,” on page 199 to determine whether the part is a CRU or a FRU).

Hard disk drive problems

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
Not all drives are recognized by the DSA hard disk drive diagnostic test.	<ol style="list-style-type: none">1. Set up the RAID configuration before you run the DSA diagnostic tests.2. Remove the drive that is indicated by DSA (see “Removing 2.5-inch and 1.8-inch hot-swap drives” on page 209); then, run the hard disk drive diagnostic test again (see “Running the DSA Preboot diagnostic programs” on page 164).3. If the remaining drives are recognized, replace the drive that you removed with a new one.

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
The server stops responding during the hard disk drive diagnostic test.	<ol style="list-style-type: none"> 1. Set up the RAID configuration before you run the DSA diagnostic tests. 2. Remove the hard disk drive that was being tested when the server stopped responding (see “Removing 2.5-inch and 1.8-inch hot-swap drives” on page 209), and run the diagnostic test again (see “Running the DSA Preboot diagnostic programs” on page 164). 3. If the hard disk drive diagnostic test runs successfully, replace the drive that you removed with a new one (see “Replacing 2.5-inch and 1.8-inch hot-swap drives” on page 210).
A hard disk drive has failed, and the associated amber hard disk drive status LED is lit.	Check the IMM event log for hard disk drive events and resolve the problem.

<ul style="list-style-type: none"> • Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. • See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). • If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician. 	
Symptom	Action
A newly installed hard disk drive is not recognized.	<ol style="list-style-type: none"> 1. Set up the RAID configuration. 2. Check the IMM event log for hard disk drive events and resolve the problem. 3. If the LED is lit, remove the drive from the drive bay, wait 45 seconds, and reinsert the drive, making sure that the drive assembly connects to the hard disk drive backplane. 4. Observe the associated green hard disk drive activity LED and the amber status LED: <ul style="list-style-type: none"> • If the green activity LED is flashing and the amber status LED is not lit, the drive is recognized by the controller and is working correctly. Run the DSA hard disk drive test to determine whether the drive is detected (see “Running the DSA Preboot diagnostic programs” on page 164). • If the green activity LED is flashing and the amber status LED is flashing slowly, the drive is recognized by the controller and is rebuilding. • If neither LED is lit or flashing, check the hard disk drive backplane (go to step 5). • • If the green activity LED is flashing and the amber status LED is lit, replace the drive. If the activity of the LEDs remain the same, go to step 5. If the activity of the LEDs changes, return to step 1. 5. Make sure that a hard disk drive backplane is present to install the drive into. 6. Make sure that the hard disk drive backplane is correctly seated. When it is correctly seated, the drive assemblies correctly connect to the backplane without bowing or causing movement of the backplane. 7. Reseat the backplane power cable and repeat steps 1 through 3. 8. Reseat the backplane signal cable and repeat steps 1 through 3. 9. Suspect the backplane signal cable or the backplane: <ol style="list-style-type: none"> a. Replace the affected backplane signal cable. b. Replace the affected backplane. 10. Run the DSA tests for the SAS/SATA adapter and hard disk drives (see “Running the DSA Preboot diagnostic programs” on page 164). <ul style="list-style-type: none"> • If the adapter passes the test but the drives are not recognized, replace the backplane signal cable and run the tests again. • Replace the backplane. • If the adapter fails the test, disconnect the backplane signal cable from the adapter and run the tests again. • If the adapter fails the test, replace the adapter. 11. See “Problem determination tips” on page 183 for more information. 12. (Trained service technician only) replace the system board.

<ul style="list-style-type: none"> • Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. • See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). • If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician. 	
Symptom	Action
Multiple hard disk drives fail or are offline.	<ol style="list-style-type: none"> 1. If the server was recently installed, moved, or serviced, make sure that the drives are seated correctly, the backplane cables are securely connected to the backplane and the system board, and the RAID adapter is configured correctly. 2. Check the IMM event log for any hard disk drive events and resolve the problem. 3. Install the drives on a different backplane to see if they are recognized. If they are, replace the backplane; otherwise, replace the drive. 4. Replace the RAID adapter. 5. Replace the system board.
A replacement hard disk drive does not rebuild.	<ol style="list-style-type: none"> 1. Make sure that the hard disk drive is recognized by the adapter (the green hard disk drive activity LED is flashing). If it is not recognized, see “A replacement hard disk drive does not rebuild” on page 170. 2. Review the SAS/SATA RAID adapter documentation to determine the correct configuration parameters and settings.
An amber hard disk drive status LED does not accurately represent the actual state of the associated drive.	<ol style="list-style-type: none"> 1. If the amber hard disk drive LED and the RAID adapter software do not indicate the same status for the drive, complete the following steps: <ol style="list-style-type: none"> a. Turn off the server. b. Reseat the SAS/SATA adapter. c. Reseat the backplane signal cable and backplane power cable. d. Reseat the hard disk drive. e. Turn on the server and observe the activity of the hard disk drive LEDs. 2. See “Problem determination tips” on page 183 for more information.

Intermittent problems

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
The server resets (restarts) occasionally.	<ol style="list-style-type: none">1. Check the IMM event log for messages associated with the restart event.2. If the reset occurs during POST and the POST watchdog timer is enabled (click System Settings --> Recovery --> System Recovery --> POST Watchdog Timer in the Setup utility (see “Starting the Setup utility” on page 125) to see the POST watchdog setting), make sure that sufficient time is allowed in the watchdog timeout value (POST Watchdog Timer). If the server continues to reset during POST, see Appendix A, “UEFI/POST error codes,” on page 293 and Appendix C, “DSA messages,” on page 309.3. If the reset occurs after the operating system starts, disable any automatic server restart (ASR) utilities, such as the IBM Automatic Server Restart IPMI Application for Windows, or any ASR devices that are be installed. Note: ASR utilities operate as operating-system utilities and are related to the IPMI device driver. If the reset continues to occur after the operating system starts, the operating system might have a problem; see “Software problems” on page 181.

Keyboard, mouse, or pointing-device problems

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
All or some keys on the keyboard do not work.	<ol style="list-style-type: none">1. Make sure that the following conditions are met:<ul style="list-style-type: none">• The keyboard cable is securely connected.• The server and the monitor are turned on.2. See http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/ for information about keyboard compatibility.3. If you are using a USB keyboard and it is connected to a USB hub, disconnect the keyboard from the hub and connect it directly to the server.4. If you are using a USB keyboard and it is connected to a USB hub, disconnect the keyboard from the hub and connect it directly to the server. If the keyboard is connected directly to the server, try another port. If the keyboard works, replace the USB hub.5. Replace the keyboard.

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
The mouse or pointing device does not work.	<ol style="list-style-type: none"> 1. See http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/ for information about mouse compatibility. 2. Make sure that the following conditions are met: <ul style="list-style-type: none"> • The mouse or pointing-device cable is securely connected to the server. • If you are using a pointing device, the keyboard and mouse or pointing-device cables are not reversed. • The mouse or pointing-device device drivers are installed correctly. • The server and the monitor are turned on. • The mouse option is enabled in the Setup utility (see “Starting the Setup utility” on page 125). 3. If you are using a USB mouse and it is connected to a USB hub, disconnect the mouse from the hub and connect it directly to the server. If it is connected to the server, try another port. If the mouse works, replace the USB hub. 4. Replace the mouse or pointing device.

Memory problems

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
The amount of system memory that is displayed is less than the amount of installed physical memory.	<p>Note: If you change memory, you must update the memory configuration in the Setup utility (see “Using the Setup utility” on page 125 for more information). For more information about installing DIMMs, see “Installing a memory module” on page 40, “Non-mirroring (independent mode)” on page 43, “Memory mirroring” on page 43, and “Memory sparing” on page 45.</p> <ol style="list-style-type: none"> 1. If the server was recently installed, moved, or serviced, make sure that all DIMMs are seated correctly. 2. If a new DIMM has been installed recently, verify that you have not received any configuration events in the event log. Otherwise, check the IMM event log. If any DIMM configuration events are listed, resolve the event problems first. 3. Make sure that the following conditions are met: <ul style="list-style-type: none"> • No error LEDs are lit on the operator information panel or on the microprocessor and memory expansion tray. • Memory mirroring does not account for the discrepancy (see “Memory mirroring” on page 43). • The memory modules are seated correctly (see “Removing a memory module” on page 216 and “Replacing a memory module” on page 217). • You have installed the correct type of memory (see “Installing a memory module” on page 40). • If you changed the memory, you updated the memory configuration in the Setup utility. • All banks of memory are enabled. The server might have automatically disabled a memory bank when it detected a problem, or a memory bank might have been manually disabled. 4. Check the POST event log: <ul style="list-style-type: none"> • If a DIMM was disabled by a systems-management interrupt (SMI), replace the DIMM. • If a DIMM was disabled by the user or by POST, run the Setup utility and enable the DIMM. 5. Run memory diagnostics (see “IBM Dynamic System Analysis” on page 162). If an error is detected, follow the steps to correct the error. 6. For the system board and the microprocessor and memory expansion tray, add DIMMs one at a time (see “Replacing a memory module” on page 217). 7. Reseat the DIMM. 8. Restart the server.
Multiple rows of DIMMs in a branch are identified as failing.	<ol style="list-style-type: none"> 1. Check the system-event log for any events associated with a failing DIMM. 2. Resolve the DIMM errors that are listed in the system-event log, starting with the first error that has occurred. 3. Resolve any DIMM configuration mismatches that are listed in the IMM event log.

Microprocessor problems

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
The server goes directly to the POST event viewer when it is turned on.	1. Check the IMM event log and resolve any errors that have occurred.

Monitor and video problems

Some IBM monitors have their own self-tests. If you suspect a problem with your monitor, see the documentation that comes with the monitor for instructions for testing and adjusting the monitor. If you cannot diagnose the problem, call for service.

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
Testing the monitor or video.	<ol style="list-style-type: none">1. Make sure that the monitor cables are firmly connected.2. If the server is attached to a KVM switch, bypass the KVM switch to eliminate it as a possible cause of the problem; connect the monitor cable to the correct connector on the rear of the server. If the video now works, replace the KVM switch.3. Try using the monitor on a different server. If it still does not work, replace the cable, and then replace the monitor.4. Make sure that the video device driver is at the latest level.5. (Trained service technician only) Replace the system board.
The monitor works when you turn on the server, but the screen goes blank when you start some application programs.	<ol style="list-style-type: none">1. Make sure that the following conditions are met:<ul style="list-style-type: none">• The application program is not setting a display mode that is higher than the capability of the monitor.• You installed the necessary device drivers for the application.2. Run video diagnostics (see “Running the DSA Preboot diagnostic programs” on page 164).<ul style="list-style-type: none">• If the server passes the video diagnostics, the video is good; see “Solving undetermined problems” on page 183.• (Trained service technician only) If the server fails the video diagnostics, replace the system board.

<ul style="list-style-type: none"> • Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. • See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). • If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician. 	
Symptom	Action
The monitor has screen jitter, or the screen image is wavy, unreadable, rolling, or distorted.	<ol style="list-style-type: none"> 1. If the monitor self-tests show that the monitor is working correctly, consider the location of the monitor. Magnetic fields around other devices (such as transformers, appliances, fluorescents, and other monitors) can cause screen jitter or wavy, unreadable, rolling, or distorted screen images. If this happens, turn off the monitor. Attention: Moving a color monitor while it is turned on might cause screen discoloration. Move the device and the monitor at least 305 mm (12 in.) apart, and turn on the monitor. Notes: <ol style="list-style-type: none"> a. To prevent diskette drive read/write errors, make sure that the distance between the monitor and any external diskette drive is at least 76 mm (3 in.). b. Non-IBM monitor cables might cause unpredictable problems. 2. If the server is attached to a KVM switch, bypass the KVM switch to eliminate it as a possible cause of the problem; connect the monitor cable to the correct connector on the rear of the server. If the image clears, replace the KVM switch. 3. Reseat the monitor cable. 4. Try the monitor on a different server. If it still does not work, replace the cable, then the monitor. 5. Replace the adapter, if installed. 6. (Trained service technician only) Replace the system board.
Wrong characters appear on the screen.	<ol style="list-style-type: none"> 1. Verify that the language and locality settings are correct for the keyboard and operating system. 2. If the wrong language is displayed, update the server firmware to the latest level (see “Updating the firmware” on page 121) with the correct language.

Optional-device problems

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician. 	
Symptom	Action
An IBM optional device that was just installed does not work.	<ol style="list-style-type: none"> Check the IMM event log for any events associated with the device. Make sure that the following conditions are met: <ul style="list-style-type: none"> The device is installed in the correct port. The device is designed for the server (see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/). You followed the installation instructions that came with the device, and the device is installed correctly. You have not loosened any other installed devices or cables. You updated the configuration information in the Setup utility. Whenever memory or any other device is changed, you must update the configuration. Reseat the device that you just installed. Replace the device that you just installed.
An IBM optional device that worked previously does not work now.	<ol style="list-style-type: none"> Check the IMM event log for any events associated with the device. Make sure that all of the cable connections for the device are secure. Reseat the failing device. If the device comes with test instructions, use those instructions to test the device. If the failing device is a SCSI device, make sure that the following conditions are met: <ul style="list-style-type: none"> The cables for all external SCSI devices are connected correctly. The last device in each SCSI chain, or the end of the SCSI cable, is terminated correctly. Any external SCSI device is turned on. You must turn on an external SCSI device before you turn on the server. Replace the failing device.
PCIe adapters not recognized or are not functioning	<ol style="list-style-type: none"> Check the IMM event log and resolve any errors related to the device. Make sure that the adapter is on the ServerProven list for the Machine Type (see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/). Make sure that the adapter is installed in the correct slot. Make sure that the correct device drivers for the device are installed on your operating system. Resolve any resource conflicts if the server is running in legacy mode (UEFI). Check for service bulletins for help with this problem. Make sure that any adapter external connections are correct and not physically damaged.

Power problems

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
The power-on button does not work, and the reset button does work (the server does not start). Note: The power-on button will not function until approximately 10 seconds after the server has been connected to ac power.	<ol style="list-style-type: none"> 1. Make sure that the server has power by checking the ac power LED and the dc power LED on the power supply. If both of the ac power LED and the dc power LED are lit, reseal the power supply. If one of the LED is off, then see “Power-supply LEDs” on page 156. 2. If you just installed an optional device, remove it and restart the server. If the server now starts, you might have installed more devices than the power supply can support. 3. Check the IMM event log and resolve any errors related to the device. 4. Make sure that the power interposer card is connected to the power supply connector and the system board correctly. 5. Attempt to use the force power on jumper (see Table 2 on page 28). If the server starts, replace the operator information panel and operator information panel cable.
The server does not turn off	<ol style="list-style-type: none"> 1. Determine whether you are using an Advanced Configuration and Power Interface (ACPI) or a non-ACPI operating system. If you are using a non-ACPI operating system, complete the following steps: <ol style="list-style-type: none"> a. Press Ctrl+Alt+Delete. b. Turn off the server by pressing the power-on button and holding it down for 5 seconds. c. Restart the server. d. If the server fails POST and the power-on button does not work, disconnect the ac power cord for 20 seconds; then, reconnect the ac power cord and restart the server. 2. If the problem remains or if you are using an ACPI-aware operating system, suspect the system board.
The server unexpectedly shuts down, and the LEDs on the operator information panel are not lit.	<ol style="list-style-type: none"> 1. Check the IMM event log for errors and resolve any errors associated with the device. 2. If you are unable to check the IMM event log, see the steps for “The power-control button does not work, and the reset button does work (the server does not start).” symptom in this table. 3. If the problem remains, see “Solving undetermined problems” on page 183.
The server goes directly to the POST Event Viewer when it is turned on.	Check the IMM event log and resolve any errors that has occurred.

Serial-device problems

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician. 	
Symptom	Action
The number of serial ports that are identified by the operating system is less than the number of installed serial ports.	<ol style="list-style-type: none"> Make sure that the following conditions are met: <ul style="list-style-type: none"> Each port is assigned a unique address in both the Setup utility and the operating system, and none of the serial ports are disabled. The serial-port adapter (if one is present) is seated correctly. Reseat the serial port adapter. Replace the serial port adapter.
A serial device does not work.	<ol style="list-style-type: none"> Make sure that the following conditions are met: <ul style="list-style-type: none"> The device is compatible with the server. The serial port is enabled and is assigned a unique address in both the Setup utility and the operating system. The device is connected to the correct connector (see “System-board internal connectors” on page 26 and “System-board external connectors” on page 26). Reseat the following components: <ol style="list-style-type: none"> Failing serial device Serial cable Replace the components listed in step 2 one at a time, in the order shown, restarting the server each time. Replace the serial adapter (if one is installed). (Trained service technician only) Replace the system board.

ServerGuide problems

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician. 	
Symptom	Action
The <i>ServerGuide Setup and Installation</i> CD will not start.	<ol style="list-style-type: none"> Make sure that the server supports the ServerGuide program and has a startable (bootable) CD or DVD drive. See the readme file that is part of the ISO image at http://www-947.ibm.com/systems/support/supportsite.wss/docdisplay?brandind=5000008&Indocid=TOOL-CENTER. Make sure that you burned the CD or DVD from an image (do not burn the CD or DVD ISO file as a data disk) Make sure that you burned the CD or DVD as <i>disk at once</i> (not track at once). If the startup (boot) sequence settings have been changed, make sure that the CD or DVD drive is first in the startup sequence. If more than one CD or DVD drive is installed, make sure that only one drive is set as the primary drive.

<ul style="list-style-type: none"> • Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. • See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). • If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician. 	
Symptom	Action
The MegaRAID Storage Manager program cannot view all installed drives, or the operating system cannot be installed.	<ol style="list-style-type: none"> 1. Make sure that the hard disk drive is connected correctly. 2. Make sure that the SAS/SATA hard disk drive cables are securely connected. 3. Follow the steps for “A newly installed hard disk drive is not recognized” symptom on page 170
The operating-system installation program continuously loops.	Make more space available on the hard disk.
The ServerGuide program will not start the operating-system CD.	Make sure that the operating-system CD is supported by the ServerGuide program. For a list of supported operating-system versions, go to http://www.ibm.com/systems/management/serverguide/sub.html , click IBM Service and Support Site , click the link for your ServerGuide version, and scroll down to the list of supported Microsoft Windows operating systems.
The operating system cannot be installed; the option is not available.	Make sure that the server supports the operating system. If it does, either no logical drive is defined (SCSI RAID servers), or the ServerGuide System Partition is not present. Run the ServerGuide program and make sure that setup is complete.

Software problems

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
You suspect a software problem.	<ol style="list-style-type: none"> 1. Make sure that the following conditions are met: <ul style="list-style-type: none"> • The server has the minimum amount of memory that is needed to run the software. For memory requirements, see the information that is provided with the software. • The operating system is on the ServerProven list (see http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/) and supported by your hardware. • If you have just installed an adapter, make sure that the correct device driver for that adapter is installed on the server. • The software is designed to run on the server and the operating system that is installed on the server. • Other software that is installed on the server runs correctly. • The software can be installed on another server (running the same level of operating system) and works correctly. 2. If you receive any error messages when you use the software, see the information that comes with the software for a description of the messages and suggested solutions to the problem. 3. Check the operating system logs for any events related to your software and attempt to resolve them. 4. Contact your software provider for additional problem resolution.

Universal Serial Bus (USB) port problems

- Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.
- See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).
- If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.

Symptom	Action
A USB device does not work.	<ol style="list-style-type: none"> 1. Make sure that the correct device drivers are installed on the server. See the production documentation for the USB device or the manufacturer’s website for information about the device drivers. 2. Use the Setup utility to make sure that the device is configured correctly (see “Using the Setup utility” on page 125). 3. If the USB device is connected into the hub or the console breakout cable, disconnect the device and connect it into the USB port on the front of the server. 4. Run the DSA USB diagnostic test (see “Running the DSA Preboot diagnostic programs” on page 164).

Video problems

See “Monitor and video problems” on page 175.

Solving power problems

Power problems can be difficult to solve. For example, a short circuit can exist anywhere on any of the power distribution buses. Usually, a short circuit will cause the power subsystem to shut down because of an overcurrent condition. To diagnose a power problem, use the following general procedure:

1. Check the IMM event log and resolve any errors related to the power (see “Power problems” on page 178).
2. Check for short circuits, for example, if a loose screw is causing a short circuit on a circuit board.
3. Remove the adapters and disconnect the cables and power cords to all internal and external devices until the server is at the minimum configuration that is required for the server to start (see “Solving undetermined problems” on page 183 for the minimum configuration).
4. Reconnect all ac power cords and turn on the server. If the server starts successfully, reseal the adapters and devices one at a time until the problem is isolated.

If the server does not start from the minimum configuration, see “Power-supply LEDs” on page 156 to replace the components in the minimum configuration one at a time until the problem is isolated.

Solving Ethernet controller problems

The method that you use to test the Ethernet controller depends on which operating system you are using. See the operating-system documentation for information about Ethernet controllers, and see the Ethernet controller device-driver readme file.

Try the following procedures:

- Make sure that the correct device drivers, which come with the server are installed and that they are at the latest level.
- Make sure that the Ethernet cable is installed correctly.
 - The cable must be securely attached at all connections. If the cable is attached but the problem remains, try a different cable.
 - If you set the Ethernet controller to operate at 100 Mbps or 1000 Mbps, you must use Category 5 cabling.
- Determine whether the hub supports auto-negotiation. If it does not, try configuring the integrated Ethernet controller manually to match the speed and duplex mode of the hub.
- Check the Ethernet controller LEDs on the rear panel of the server. These LEDs indicate whether there is a problem with the connector, cable, or hub.
 - The Ethernet link status LED is lit when the Ethernet controller receives a link pulse from the hub. If the LED is off, there might be a defective connector or cable or a problem with the hub.
 - The Ethernet transmit/receive activity LED is lit when the Ethernet controller sends or receives data over the Ethernet network. If the Ethernet transmit/receive activity LED is off, make sure that the hub and network are operating and that the correct device drivers are installed.

- Check the LAN activity LED on the rear of the server. The LAN activity LED is lit when data is active on the Ethernet network. If the LAN activity LED is off, make sure that the hub and network are operating and that the correct device drivers are installed.
- Check for operating-system-specific causes of the problem, and also make sure that the operating system drivers are installed correctly.
- Make sure that the device drivers on the client and server are using the same protocol.

If the Ethernet controller still cannot connect to the network but the hardware appears to be working, the network administrator must investigate other possible causes of the error.

Solving undetermined problems

If Dynamic System Analysis (DSA) did not diagnose the failure or if the server is inoperative, use the information in this section.

If you suspect that a software problem is causing failures (continuous or intermittent), see “Software problems” on page 181.

Corrupted data in CMOS memory or corrupted UEFI firmware can cause undetermined problems. To reset the CMOS data, use switch 2 on the SW7 switch block to clear the CMOS memory and override the power-on password; see Table 3 on page 29. If you suspect that the UEFI firmware is corrupted, see “Recovering from a UEFI update failure or UEFI image corruption” on page 185.

If the power supplies are working correctly, complete the following steps:

1. Turn off the server.
2. Make sure that the server is cabled correctly.
3. Remove or disconnect the following devices, one at a time, until you find the failure. Turn on the server and reconfigure it each time.
 - Any external devices.
 - Surge-suppressor device (on the server).
 - Printer, mouse, and non-IBM devices.
 - Each adapter.
 - Hard disk drives.
 - Memory modules. The minimum configuration requirement is one 4 GB DIMM in slot 1.
4. Turn on the server.

If the problem is solved when you remove an adapter from the server but the problem recurs when you reinstall the same adapter, suspect the adapter; if the problem recurs when you replace the adapter with a different one, try a different PCIe slot.

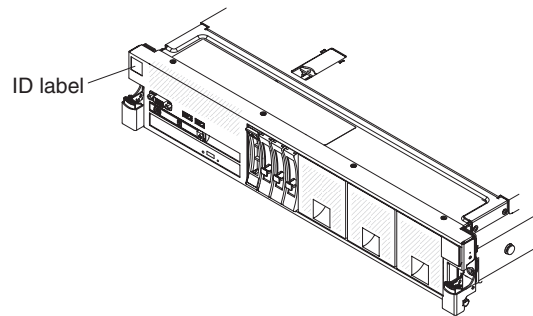
If you suspect a networking problem and the server passes all the system tests, suspect a network cabling problem that is external to the server.

Problem determination tips

Because of the variety of hardware and software combinations that you can encounter, use the following information to assist you in problem determination.

The model number and serial number are located on the ID label on the front of the server as shown in the following illustration.

Note: The illustrations in this document might differ slightly from your hardware.



- Machine type and model
- Microprocessor or hard disk drive upgrades
- Failure symptom
 - Does the server fail the Dynamic System Analysis diagnostic tests?
 - What occurs? When? Where?
 - Does the failure occur on a single server or on multiple servers?
 - Is the failure repeatable?
 - Has this configuration ever worked?
 - What changes, if any, were made before the configuration failed?
 - Is this the original reported failure?
- Diagnostic program type and version level
- Hardware configuration (print screen of the system summary)
- UEFI firmware level
- IMM firmware level
- Operating-system software

You can solve some problems by comparing the configuration and software setups between working and nonworking servers. When you compare servers to each other for diagnostic purposes, consider them identical only if all the following factors are exactly the same in all the servers:

- Machine type and model
- UEFI firmware level
- IMM firmware level
- Adapters and attachments, in the same locations
- Address jumpers, terminators, and cabling
- Software versions and levels
- Diagnostic program type and version level
- Setup utility settings
- Operating-system control-file setup

See Appendix E, “Getting help and technical assistance,” on page 497 for information about calling IBM for service.

Recovering from a UEFI update failure or UEFI image corruption

Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

If the server firmware has become corrupted, such as from a power failure during an update, you can recover the server firmware in either of two ways:

- **In-band method:** Recover the server firmware, using either the UEFI boot recovery jumper (Automated Boot Recovery) and a server Firmware Update Package Service Pack.
- **Out-of-band method:** Use the IMM web interface to update the firmware, using the latest server firmware update package.

Note: You can obtain a server update package from one of the following sources:

- Download the server firmware update from the World Wide Web.
- Contact your IBM service representative.

To download the server firmware update package from the World Wide Web, go to <http://www.ibm.com/supportportal/>.

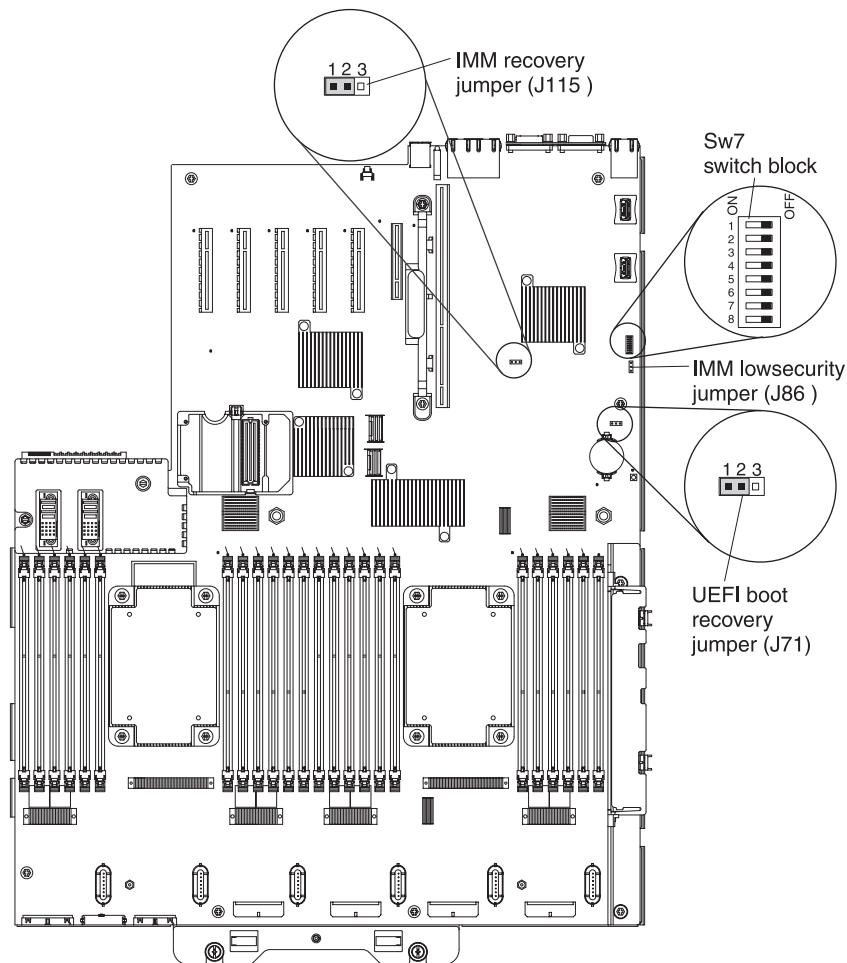
Attention: Installing the wrong firmware or device-driver update might cause the server to malfunction. Before you install a firmware or device-driver update, read any readme and change history files that are provided with the downloaded update. These files contain important information about the update and the procedure for installing the update, including any special procedure for updating from an early firmware or device-driver version to the latest version.

The flash memory of the server consists of a primary bank and a backup bank. You must maintain a bootable UEFI firmware image in the backup bank. If the server firmware in the primary bank becomes corrupted, you can either manually boot the backup bank with the UEFI boot recovery jumper (J71), or in the case of image corruption, this will occur automatically with the Automated Boot Recovery function.

In-band manual recovery method

To recover the server firmware and restore the server operation to the primary bank, complete the following steps:

1. Turn off the server, and disconnect all power cords and external cables.
2. Remove the server cover. See “Removing the server top cover” on page 199 for more information.
3. Locate the UEFI boot recovery jumper (J71) on the system board.



4. Move the jumper from pins 1 and 2 to pins 2 and 3 to enable the UEFI recovery mode.
5. Reinstall the server cover; then, reconnect all power cords.
6. Restart the server. The power-on self-test (POST) starts.
7. Boot the server to an operating system that is supported by the IBM Flash UEFI Update package that you downloaded.
8. Perform the firmware update by following the instructions that are in the firmware update package readme file.
9. Copy the downloaded firmware update package into a directory.
10. From a command line, type *filename-s*, where *filename* is the name of the executable file that you downloaded with the firmware update package.
11. Turn off the server and disconnect all power cords and external cables, and then remove the server cover.
12. Move the UEFI boot recovery jumper (J71) back to the primary position (pins 1 and 2).
13. Reinstall the server cover, and then reconnect all the power cables.
14. Restart the server.

In-band automated boot recovery method

Note: Use this method if the BOARD LED on the light path diagnostics panel is lit and there is a log entry or Booting Backup Image is displayed on the firmware splash screen; otherwise, use the in-band manual recovery method.

1. Boot the server to an operating system that is supported by the firmware update package that you downloaded.
2. Perform the firmware update by following the instructions that are in the firmware update package readme file.
3. Restart the server.
4. At the firmware splash screen, press F3 when prompted to restore to the primary bank. The server boots from the primary bank.

Out-of-band method: See the IMM2 documentation (*Integrated Management Module II User's Guide*) at <http://www.ibm.com/support/entry/portal/docdisplay?lnodocid=MIGR-5089484>.

For more information about UEFI-compliant firmware, go to <http://www.ibm.com/systems/support/supportsite.wss/docdisplay?lnodocid=MIGR-5083207&brandind=5000008>.

Automated boot recovery (ABR)

If the server is booting up and the IMM detects problems with the server firmware in the primary bank, it will automatically switch to the backup firmware bank and give you the opportunity to recover the primary bank. To recover to the server firmware primary bank, complete the following steps.

1. Restart the server.
2. When the prompt press F3 to restore to primary is displayed, press F3 to recover the primary bank. Pressing F3 will restart the server.

Nx boot failure

Configuration changes, such as added devices or adapter firmware updates, and firmware or application code problems can cause the server to fail POST (power-on self-test). If this occurs, the server responds in either of the following ways:

- The server restarts automatically and attempts POST again.
- The server hangs, and you must manually restart the server for the server to attempt POST again.

After a specified number of consecutive attempts (automatic or manual), the Nx boot failure feature causes the server to revert to the default UEFI configuration and start the Setup utility so that you can make the necessary corrections to the configuration and restart the server. If the server is unable to successfully complete POST with the default configuration, there might be a problem with the system board.

To specify the number of consecutive restart attempts in the Setup utility that will trigger the Nx boot failure feature, complete the following steps. The available values are 3, 6, 9, and 255 (disable Nx boot failure).

1. From the Setup utility main menu, select **System Settings**.
2. Next select **Recovery**.
3. Select **POST Attempts**; then, select **POST Attempts Limit**.
4. Modify the configuration settings and select **Save Settings**; then, exit Setup.

Chapter 5. Parts listing, System x3750 M4 Types 8722 and 8733

The following replaceable components are available for the System x3750 M4 Types 8722 and 8733 server, except as specified otherwise in "Replaceable server components." For an updated parts listing, go to <http://www.ibm.com/supportportal/>.

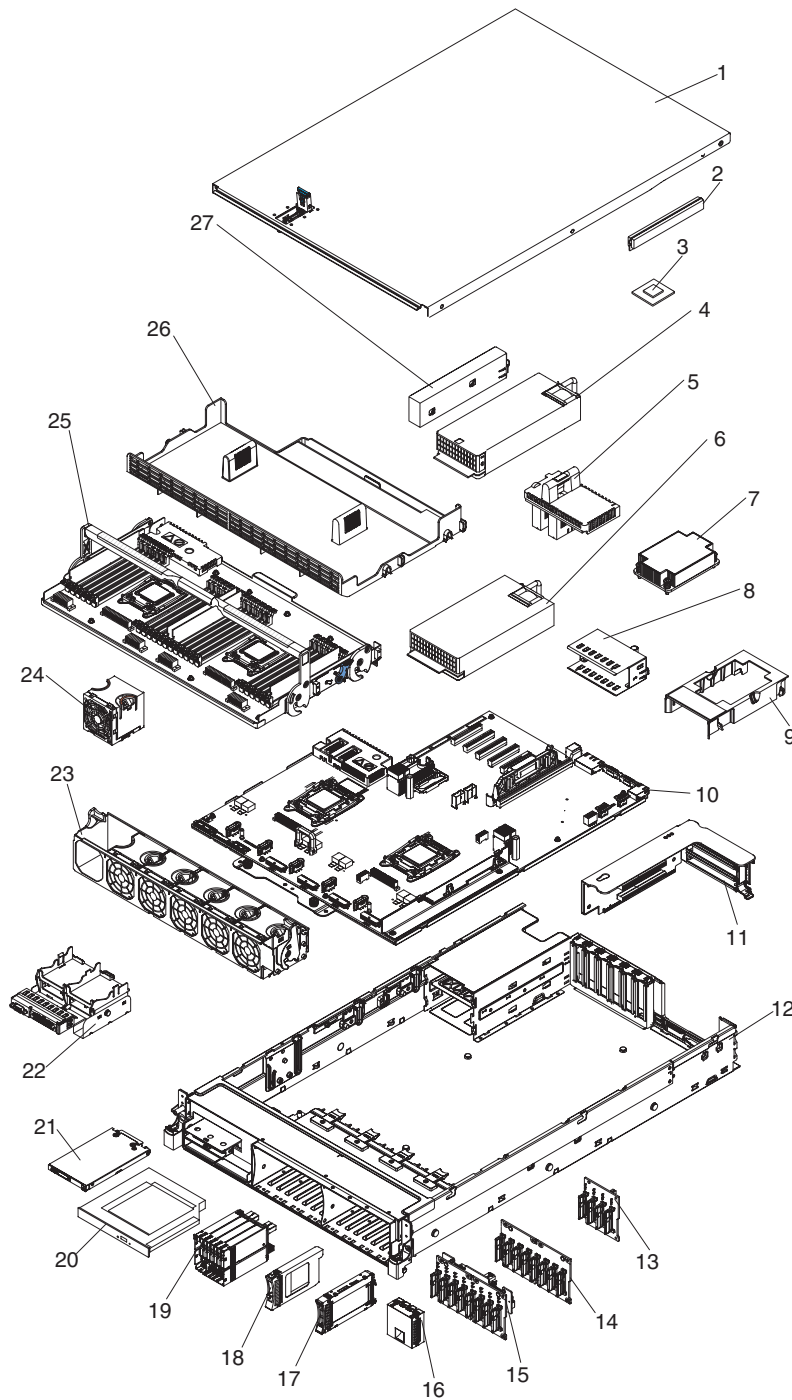
Replaceable server components

Replaceable components consist of consumable parts, structural parts, and field replaceable units (FRUs):

- **Consumables:** Purchase and replacement of consumables (components, such as batteries and printer cartridges, that have depleting life) is your responsibility. If IBM acquires or installs a consumable component at your request, you will be charged for the service. See "Consumable parts" on page 193 for the list of consumable parts.
- **Structural parts:** Purchase and replacement of structural parts (components, such as chassis assembly, top cover, and bezel) is your responsibility. If IBM acquires or installs a structural component at your request, you will be charged for the service. See "Structural parts" on page 194 for the list of structural parts.
- **Field replaceable unit (FRU):** FRUs must be installed only by trained service technicians, unless they are classified as customer replaceable units (CRUs):
 - **Tier 1 customer replaceable unit (CRU):** Replacement of Tier 1 CRUs is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation.
 - **Tier 2 customer replaceable unit (CRU):** You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge, under the type of warranty service that is designated for your server.

For information about the terms of the warranty and getting service and assistance, see the *Warranty Information* document that comes with the server. For more information about getting service and assistance, see Appendix E, "Getting help and technical assistance," on page 497.

The following illustration shows the major components in the server. The illustrations in this document might differ slightly from your hardware. For a list of consumable parts, see "Consumable parts" on page 193 and for a list of structural parts, see "Structural parts" on page 194.



The following table lists the part numbers for the server replaceable components.

Table 24. Parts listing, Types 8722 and 8733

Index	Description	CRU part number (Tier 1)	CRU part number (Tier 2)	FRU part number
2	Memory, 4 GB (1.5 V), PC3-12800 CL11 DDR3 ECC 1600 MHz RDIMM	49Y1561		
2	Memory, 4 GB (1.35 V), PC3L-10600 CL9 DDR3 ECC 1333 MHz RDIMM	49Y1424		

Table 24. Parts listing, Types 8722 and 8733 (continued)

Index	Description	CRU part number (Tier 1)	CRU part number (Tier 2)	FRU part number
2	Memory, 8 GB (1.35 V), PC3L-10600 CL9 DDR3 ECC 1333 MHz RDIMM	49Y1415		
2	Memory, 8 GB (1.5 V), PC3-12800 CL11 DDR3 ECC 1600 MHz RDIMM	90Y3111		
2	Memory, 16 GB (1.35 V), PC3L-10600 CL9 DDR3 ECC 1333 MHz LR-DIMM	49Y1569		
2	Memory, 16 GB (1.35 V), PC3L-10600 CL9 DDR3 ECC 1333 MHz RDIMM	49Y1565		
2	Memory, 16 GB (1.5 V), PC3-12800 CL11 DDR3 ECC 1600 MHz RDIMM	00D4970		
2	Memory, 32 GB (1.35 V), PC3L-10600 CL9 DDR3 ECC LR-DIMM	90Y3107		
3	Microprocessor, 2.7 GHz, 20MB, 130W, 8C, E5-4650			69Y3119
3	Microprocessor, 2.6 GHz, 20MB, 115W, 8C, E5-4650L			88Y7459
3	Microprocessor, 2.4 GHz, 20MB, 95W, 8C, E5-4640			90Y9056
3	Microprocessor, 2.2 GHz, 16MB, 95W, 8C, E5-4620			69Y3113
3	Microprocessor, 2.4 GHz, 15MB, 95W, 6C, E5-4610			69Y3107
3	Microprocessor, 2.2 GHz, 12MB, 95W, 6C, E5-4607			69Y3101
3	Microprocessor, 2.9 GHz, 15MB, 130W, 6C, E5-4617			90Y9050
3	Microprocessor, 2.0 GHz, 10MB, 95W, 4C, E5-4603			88Y6264
4	Power supply, 900-Watt	43X3316		
5	Power interposer for redundant power supply card		81Y3704	
6	Power supply, 1400 Watt-Emerson (This part is interchangeable with part number 39Y7238)	39Y7233		
6	Power supply, 1400 Watt-Delta (This part is interchangeable with part number 39Y7233)	39Y7238		
7	Heat sink assembly, microprocessor (all models)			46C9740
10	System board (all models)			81Y3702
11	PCI Express Gen3 riser card assembly, x8 full-height, half-length	46C9742		
13	Backplane, 4x2.5-inch hot-swap SAS/SATA drive assembly		43V7070	
14	Backplane, 8x2.5-inch hot-swap SAS/SATA drive assembly		94Y7751	
15	Backplane, 8x2.5-inch hot-swap SAS/SATA drive (with RAID expansion)		90Y5875	
17	Solid state drive, 2.5-inch, SATA hot-swap, 128 GB, 6 Gbps	90Y8649		

Table 24. Parts listing, Types 8722 and 8733 (continued)

Index	Description	CRU part number (Tier 1)	CRU part number (Tier 2)	FRU part number
17	Solid state drive, 2.5-inch, SATA hot-swap, 200 GB, 3 Gbps	43W7721		
17	Solid state drive, 2.5-inch, SATA hot-swap, 256 GB, 6 Gbps	90Y8644		
17	SED, 2.5-inch, SAS Gen2 hot-swap, 146 GB 15K, 6 Gbps	90Y8945		
17	SED, 2.5-inch, SAS Gen2 hot-swap, 300 GB 10K, 6 Gbps	90Y8914		
17	Hard disk drive, 2.5-inch, NL SATA hot-swap, 250 GB 7.2K, 6 Gbps	81Y9723		
17	Hard disk drive, 2.5-inch, NL SATA hot-swap, 1 TB 7.2K, 6 Gbps	81Y9731		
17	Hard disk drive, 2.5-inch, SAS Gen2 hot-swap, 146 GB 15K, 6 Gbps	90Y8927		
17	Hard disk drive, 2.5-inch, SAS hot-swap, 300 GB, 6 Gbps	90Y8878		
17	Hard disk drive, 2.5-inch, SAS hot-swap, 300 GB 15K, 6 Gbps	81Y9671		
17	Hard disk drive, 2.5-inch, SAS hot-swap, 500 GB, 6 Gbps	90Y8954		
17	Hard disk drive, 2.5-inch, NL SAS Gen2 hot-swap, 500 GB 7.2K, 6 Gbps	81Y9727		
17	Hard disk drive, 2.5-inch, SAS hot-swap, 600 GB, 6 Gbps	90Y8873		
17	Hard disk drive, 2.5-inch, SAS hot-swap, 900 GB 10K, 6 Gbps	81Y9651		
17	Hard disk drive, 2.5-inch, SAS hot-swap, 1 TB, 6 Gbps	81Y9691		
19	Backplane, 8x1.8-inch hot-swap solid state drive	59Y6222		
20	DVD drive	44W3256		
21	Operator information panel	90Y5822		
22	USB/video bracket/tray/cable assembly (all models)		46C9735	
24	Fan, hot-swap 60 mm	46C9727		
25	Microprocessor and memory expansion tray assembly			81Y3703
	Ethernet adapter, IBM Dual-port 10Gb SFP+ (all models)	81Y5398		
	Ethernet adapter, IBM Dual-port 10Gb-T (all models)	81Y5397		
	ServeRAID M1115 SAS/SATA Controller	81Y4449		
	ServeRAID M5110 SAS/SATA Controller	90Y4449		
	ServeRAID M5120 SAS/SATA Controller	81Y4479		
	6 Gb Solid State Drive (SSD) Host Bus Adapter	90Y4356		
	ServeRAID M5100 Series 512MB Cache/RAID 5 Adapter	81Y4485		
	ServeRAID M5100 Series 512MB Flash/RAID 5 Adapter	81Y4488		
	ServeRAID M5100 Series 1GB Flash/RAID 5 Adapter	81Y4580		

Table 24. Parts listing, Types 8722 and 8733 (continued)

Index	Description	CRU part number (Tier 1)	CRU part number (Tier 2)	FRU part number
	USB key, memory flash 2GB (USB flash device with embedded hypervisor software)	42D0545		
	Cable, operator information panel (all models)	46C9729		
	Cable, power/configuration (for 4x2.5-inch drive backplane)	69Y2278		
	Cable, power/configuration (for 8x2.5-inch drive backplane)	69Y2279		
	Cable, power/configuration (for 8x2.5-inch drive backplane with controller expander)	46C9733		
	Cable, power (solid state drives)	69Y2289		
	Cable, DVD SATA signal and power (all models)	46C9730		
	Cable, mini-SAS, 1M, x4 (for RAID cache card)	39R6530		
	Cable, mini-SAS, 3M, x4 (for RAID cache card)	39R6532		
	Cable, ServeRAID M5100 Series Battery	90Y7309		
	Cable, ServeRAID M5100 Series Flash Power Module	90Y7310		
	Cable, SAS signal, 130/155mm (for backplane-to-backplane)	90Y4661		
	Cable, SAS signal (for backplane-to-PCIe adapter)	46C9731		
	Cable, SAS signal (for backplane-to-system board)	46C9732		
	Cord, 2.8M line	39M5377		
	Labels, system service	46C9741		
	Battery, 3.0 volt	33F8354		
	Thermal grease kit (All models)			41Y9292
	Alcohol wipes			59P4739

Consumable parts

Consumable parts are not covered by the IBM Statement of Limited Warranty. The following consumable parts are available for purchase from the retail store.

Table 25. Consumable parts, Type 8722 and 8733

Index	Description	Part number
	ServeRAID M5100 Series Battery Kit	81Y4491
	ServeRAID M5100 Series Flash Power Module Kit	81Y4579

To order a consumable part, complete the following steps:

Note: Changes are made periodically to the IBM website. The actual procedure might vary slightly from what is described in this document.

1. Go to <http://www.ibm.com>.
2. From the **Products** menu, select **Upgrades, accessories & parts**.

3. Click **Obtain maintenance parts**; then, follow the instructions to order the part from the retail store.

If you need help with your order, call the toll-free number that is listed on the retail parts page, or contact your local IBM representative for assistance.

Structural parts

Structural parts are not covered by the IBM Statement of Limited Warranty. The following structural parts are available for purchase from the retail store.

Table 26. Structural parts, Type 8722 and 8733

Index	Description	Part number
1	Top cover (all models)	46C9728
12	Chassis assembly (without front bezel) (all models)	46C9725
	Bezel	46C9738
23	Fan cage assembly (all models)	46C9726
	Filler, DVD drive bay (all models)	49Y4865
	Filler, group PCIe riser slot	69Y2294
16	Filler, 4x2.5-inch hot-swap hard disk drive	49Y5359
18	Filler, single 2.5-inch hot-swap hard disk drive bay	44T2248
	Filler, 4x2.5-inch drive backplane	69Y2286
	Cable management arm, Gen-III 1U (System x)	94Y6626
	Cable management arm, Gen-III 2U (System x)	94Y6627
	Labels, system service	46C9741
	Rack latch kit, 2U	69Y2295
	Rail kit, Gen3 Ball Bearing Slide	94Y6625
	Shipping bracket kit	46C9737

Table 26. Structural parts, Type 8722 and 8733 (continued)

Index	Description	Part number
	Miscellaneous parts kit includes: SAS cable guide Microprocessor air baffle DIMM air baffle Backplane retention Riser-card guide Interlock spring RAID battery retention bracket RAID battery and flash power module tray PCIe riser-card slot filler 1U Power supply bay blank filler PCI retention cover 900-watt power supply spacer RAID cache card retention bracket System board handle M2x0.4 screw M2x10 screw M3x0.5 screw DVD drive bay blank filler DVD retention bracket DVD spacer	46C9736

To order a structural part, complete the following steps:

Note: Changes are made periodically to the IBM website. The actual procedure might vary slightly from what is described in this document.

1. Go to <http://www.ibm.com>.
2. From the **Products** menu, select **Upgrades, accessories & parts**.
3. Click **Obtain maintenance parts**; then, follow the instructions to order the part from the retail store.

If you need help with your order, call the toll-free number that is listed on the retail parts page, or contact your local IBM representative for assistance.

Power cords

For your safety, a power cord with a grounded attachment plug is provided to use with this product. To avoid electrical shock, always use the power cord and plug with a properly grounded outlet.

Power cords for this product that are used in the United States and Canada are listed by Underwriter's Laboratories (UL) and certified by the Canadian Standards Association (CSA).

For units intended to be operated at 115 volts: Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a parallel blade, grounding-type attachment plug rated 15 amperes, 125 volts.

For units intended to be operated at 230 volts (U.S. use): Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a tandem blade, grounding-type attachment plug rated 15 amperes, 250 volts.

For units intended to be operated at 230 volts (outside the U.S.): Use a cord set with a grounding-type attachment plug. The cord set should have the appropriate safety approvals for the country in which the equipment will be installed.

Power cords for a specific country or region are usually available only in that country or region.

Power cord part number	Used in these countries and regions
39M5206	China
39M5102	Australia, Fiji, Kiribati, Nauru, New Zealand, Papua New Guinea
39M5123	Afghanistan, Albania, Algeria, Andorra, Angola, Armenia, Austria, Azerbaijan, Belarus, Belgium, Benin, Bosnia and Herzegovina, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo (Democratic Republic of), Congo (Republic of), Cote D'Ivoire (Ivory Coast), Croatia (Republic of), Czech Republic, Dahomey, Djibouti, Egypt, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Finland, France, French Guyana, French Polynesia, Germany, Greece, Guadeloupe, Guinea, Guinea Bissau, Hungary, Iceland, Indonesia, Iran, Kazakhstan, Kyrgyzstan, Laos (People's Democratic Republic of), Latvia, Lebanon, Lithuania, Luxembourg, Macedonia (former Yugoslav Republic of), Madagascar, Mali, Martinique, Mauritania, Mauritius, Mayotte, Moldova (Republic of), Monaco, Mongolia, Morocco, Mozambique, Netherlands, New Caledonia, Niger, Norway, Poland, Portugal, Reunion, Romania, Russian Federation, Rwanda, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, Slovakia, Slovenia (Republic of), Somalia, Spain, Suriname, Sweden, Syrian Arab Republic, Tajikistan, Tahiti, Togo, Tunisia, Turkey, Turkmenistan, Ukraine, Upper Volta, Uzbekistan, Vanuatu, Vietnam, Wallis and Futuna, Yugoslavia (Federal Republic of), Zaire
39M5130	Denmark
39M5144	Bangladesh, Lesotho, Macao, Maldives, Namibia, Nepal, Pakistan, Samoa, South Africa, Sri Lanka, Swaziland, Uganda
39M5151	Abu Dhabi, Bahrain, Botswana, Brunei Darussalam, Channel Islands, China (Hong Kong S.A.R.), Cyprus, Dominica, Gambia, Ghana, Grenada, Iraq, Ireland, Jordan, Kenya, Kuwait, Liberia, Malawi, Malaysia, Malta, Myanmar (Burma), Nigeria, Oman, Polynesia, Qatar, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Seychelles, Sierra Leone, Singapore, Sudan, Tanzania (United Republic of), Trinidad and Tobago, United Arab Emirates (Dubai), United Kingdom, Yemen, Zambia, Zimbabwe
39M5158	Liechtenstein, Switzerland
39M5165	Chile, Italy, Libyan Arab Jamahiriya
39M5172	Israel

Power cord part number	Used in these countries and regions
39M5095	<p>220 - 240 V</p> <p>Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Caicos Islands, Canada, Cayman Islands, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Jamaica, Mexico, Micronesia (Federal States of), Netherlands Antilles, Nicaragua, Panama, Peru, Philippines, Saudi Arabia, Thailand, Taiwan, United States of America, Venezuela</p>
39M5076	<p>110 - 120 V</p> <p>Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Caicos Islands, Canada, Cayman Islands, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Jamaica, Mexico, Micronesia (Federal States of), Netherlands Antilles, Nicaragua, Panama, Peru, Philippines, Saudi Arabia, Thailand, Taiwan, United States of America, Venezuela</p>
39M5219	Korea (Democratic People's Republic of), Korea (Republic of)
39M5199	Japan
39M5226	India
39M5240	Brazil

Chapter 6. Removing and replacing components

Replaceable components are of three types:

- **Tier 1 customer replaceable unit (CRU):** Replacement of Tier 1 CRUs is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation.
- **Tier 2 customer replaceable unit (CRU):** You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge, under the type of warranty service that is designated for your server.
- **Field replaceable unit (FRU):** FRUs must be installed only by Trained service technicians.

See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine whether a component is a Tier 1 CRU, Tier 2 CRU, or FRU that must be replaced only by a trained service technician.

For information about the terms of the warranty, see the *Warranty Information* document that comes with the server.

For more information about getting service and assistance, see Appendix E, “Getting help and technical assistance,” on page 497.

Returning a device or component

If you are instructed to return a device or component, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Removing and replacing server components

This section provides information for removing and replacing components in the server.

Removing and replacing consumable parts

Replacement of consumable parts is your responsibility. If IBM installs a consumable part at your request, you will be charged for the installation.

The illustrations in this document might differ slightly from your hardware.

Removing and replacing structural parts

Replacement of structural parts is your responsibility. If IBM installs a structural part at your request, you will be charged for the installation.

The illustrations in this document might differ slightly from your hardware.

Removing the server top cover

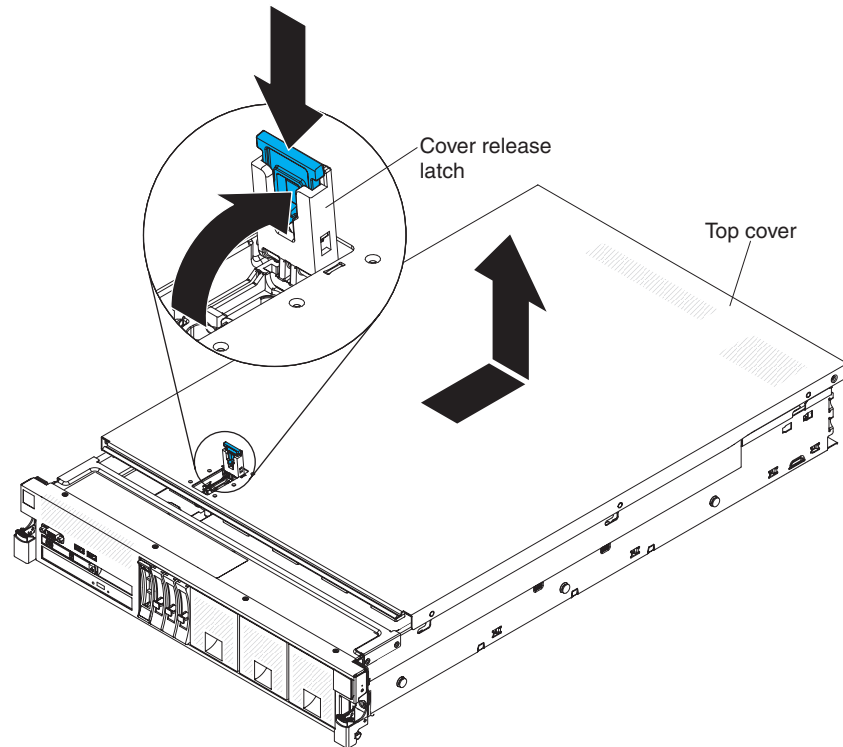
To remove the server top cover, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.

2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.

Note: If you need to view any LEDs on the system board after you disconnect power, press the **Light path button** to light the LEDs.

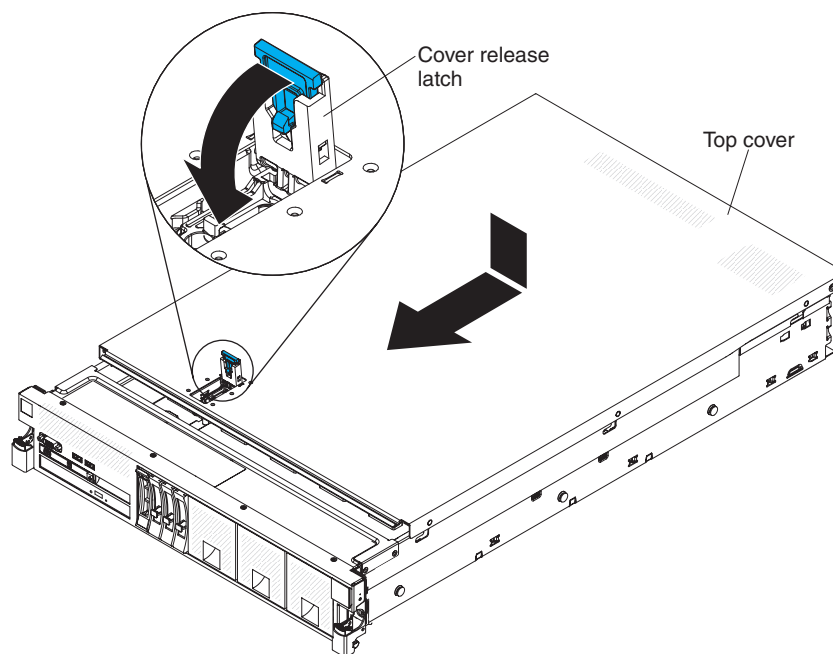
3. If the server has been installed in a rack, slide the server out from the rack enclosure.
4. Press in on the blue tab on the cover-release latch and lift the cover release latch up (the cover slides to the rear). Lift the cover off the server and set it aside.



Replacing the server top cover

To install the server cover, complete the following steps:

1. Make sure that all cables, adapters, and other components are installed and seated correctly and that you have not left loose tools or parts inside the server. Also, make sure that all internal cables are correctly routed.
2. Align the cover over the server (toward the rear of the server) until the cover edges slip into position over the chassis.

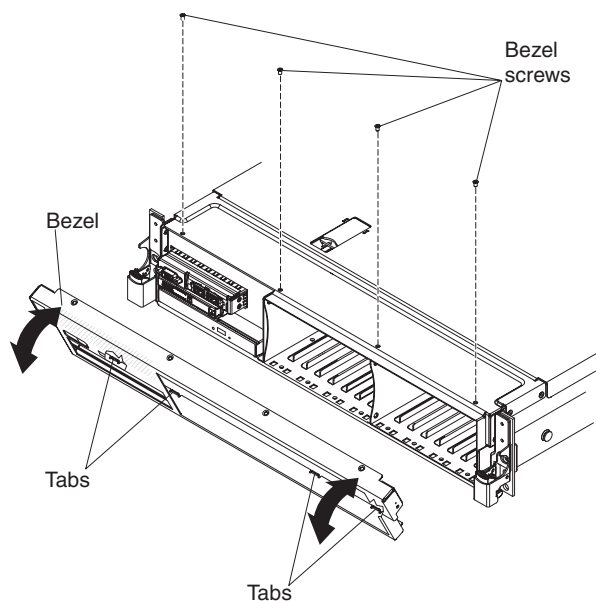


3. Slide the cover toward the front of the server; then, press down on the cover release latch until it clicks into place.
4. Slide the server back into the rack cabinet until it latches.
5. Reconnect the external cables and power cords.

Removing the bezel

To remove the bezel, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Slide the server out of the rack.
4. Remove the screws from the bezel with a Torx screwdriver.

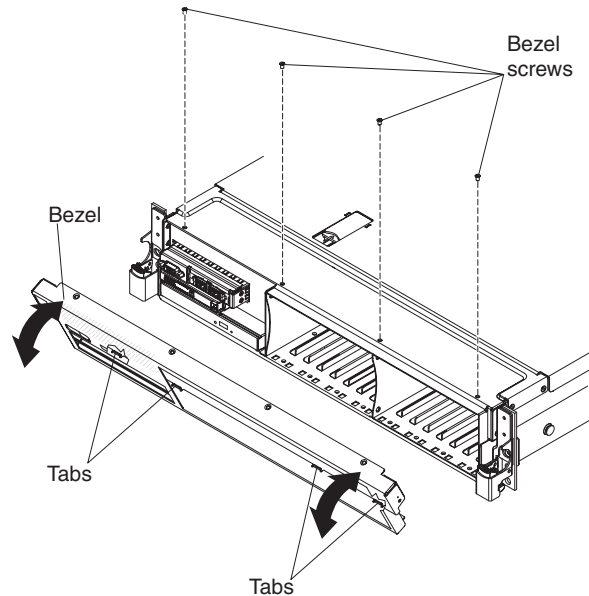


5. Pull the top of the bezel out slightly; then, rotate it downward until the tabs on the bottom of the bezel disengages from the chassis and set it aside.

Replacing the bezel

To install the bezel, complete the following steps:

1. Insert the tabs on the bottom of the bezel into the holes on the chassis.
2. Rotate the bezel upward to the server and reinstall the bezel screws.



3. Install the cover (see "Replacing the server top cover" on page 200).
4. Reconnect the power cords and any cables that you removed.
5. Slide the server into the rack.
6. Turn on the peripheral devices and the server.

Removing and replacing Tier 1 CRUs

Replacement of Tier 1 CRUs is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation.

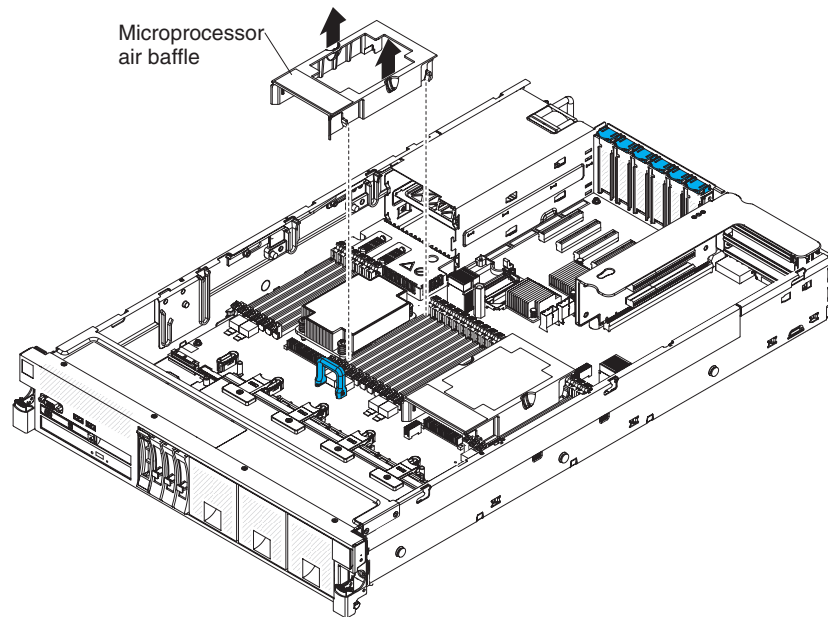
The illustrations in this document might differ slightly from your hardware.

Removing the microprocessor air baffle

To remove the microprocessor air baffle, complete the following steps:

1. Read the safety information and installation guidelines, see "Safety" on page vii and "Installation guidelines" on page 33.
2. Turn off the server (see "Turning off the server" on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the server cover (see "Removing the server top cover" on page 199).

4. Grasp the baffle by the grip points and lift it all the way up out of the slots on the chassis wall and set it aside.



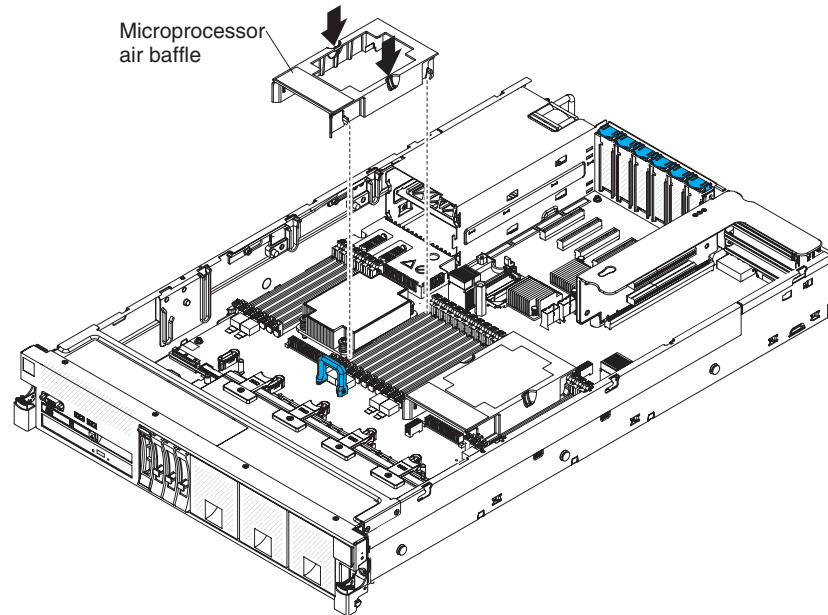
Attention: For proper cooling and airflow, replace the air baffle before you turn on the server. Operating the server with the air baffle removed might damage server components.

Replacing the microprocessor air baffle

To install the microprocessor air baffle, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Align the tabs air baffle behind the latches (front and rear latches) of the two DIMMs closest to the microprocessor (DIMM on the left and DIMM on the right of the microprocessor); then, lower the air baffle down until it is seated firmly.

Note: The microprocessor air baffle is only required when there are no DIMMs in the connectors adjacent (on the left and the right) to the microprocessor.



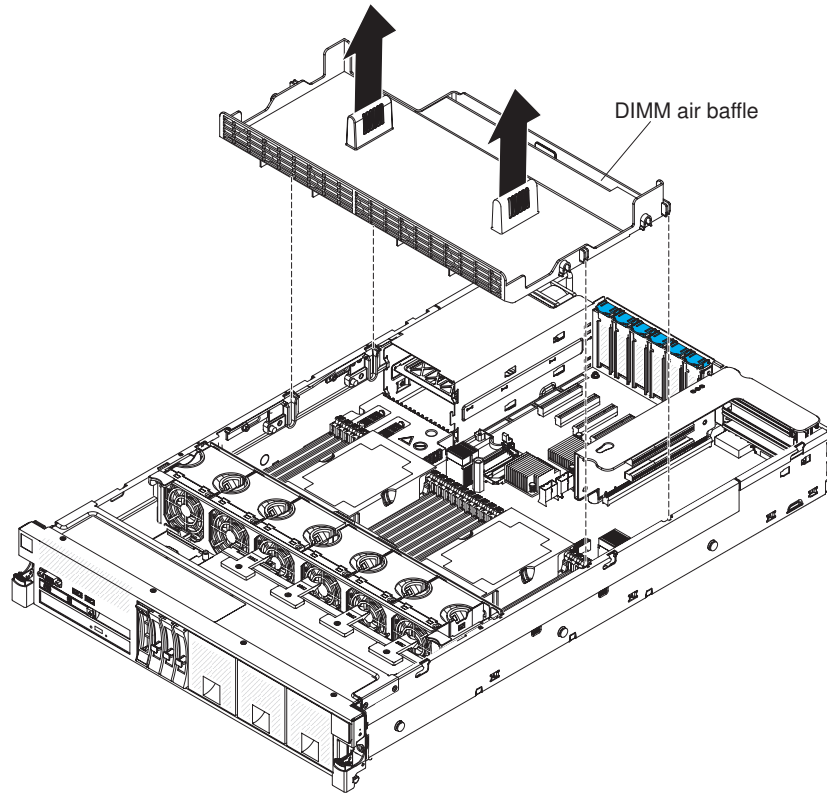
3. Reinstall the cover (see “Replacing the server top cover” on page 200).
4. Slide the server into the rack.
5. Reconnect the power cords and any cables that you removed.
6. Turn on the peripheral devices and the server.

Removing the DIMM air baffle

To remove the DIMM air baffle, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the top cover (see “Removing the server top cover” on page 199).

4. Lift the DIMM air baffle from the server.



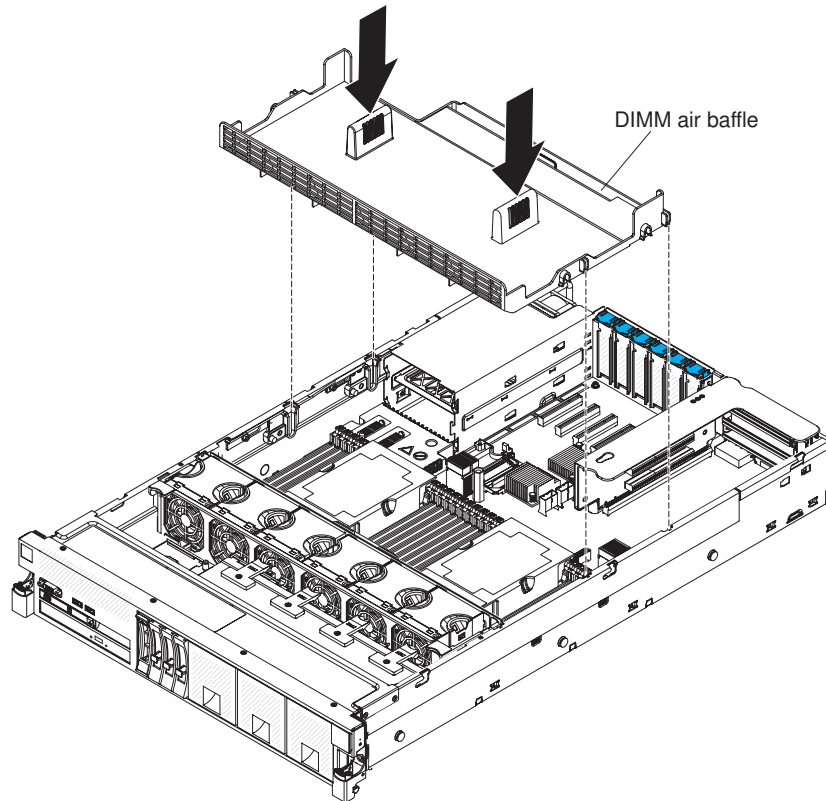
Attention: For proper cooling and airflow, replace the air baffle before you turn on the server. Operating the server with an air baffle removed might damage server components.

Replacing the DIMM air baffle

To install the DIMM air baffle, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.

2. Align the tabs on the sides of the DIMM air baffle with the slots on the sides of the chassis wall and lower the DIMM air baffle into the server.



3. Reinstall the cover (see “Replacing the server top cover” on page 200).
4. Slide the server into the rack.
5. Reconnect the power cord and any cables that you removed.
6. Turn on the peripheral devices and the server.

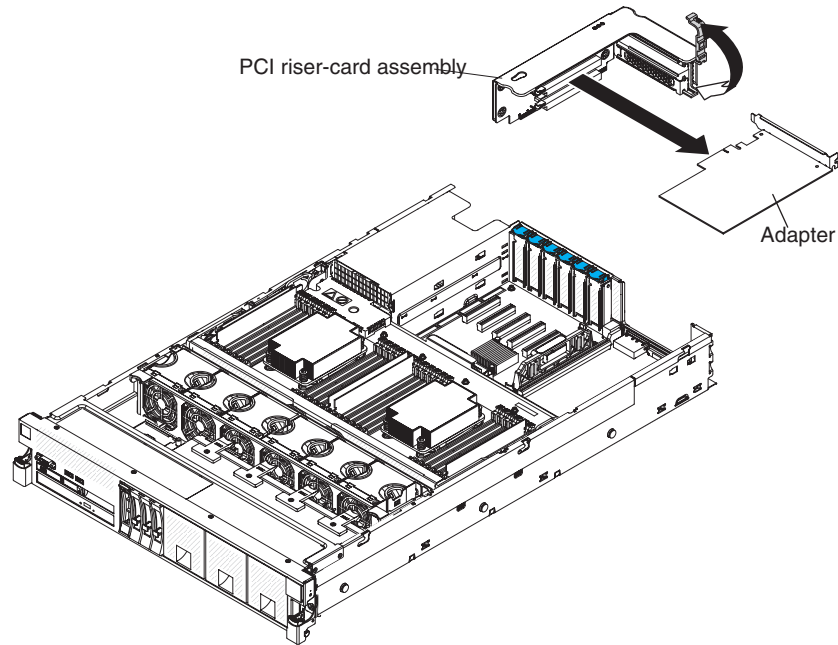
Attention: For proper cooling and airflow, replace the air baffle before turning on the server. Operating the server with an air baffle removed might damage server components.

Removing an adapter

To remove an adapter, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the server cover (see “Removing the server top cover” on page 199).
4. **Remove the adapter from a PCIe slot on the system board.**
 - a. Disconnect any cables (including external cables) from the adapter.
 - b. Lift up the adapter retention latch that secures the adapter
 - c. Carefully grasp the adapter by its top edge or upper corners, and pull the adapter from the connector on the system board and set it aside. Go to step 6 on page 207.
5. **Remove the adapter from the PCIe riser-card assembly.**
 - a. Grasp the riser-card assembly by the blue touch points and pull it out of the PCIe riser-card connector on the system board.

- b. Disconnect any cables (including external cables) from the adapter.
- c. Lift up the adapter retention latch that secures the adapter.
- d. Carefully grasp the adapter by its top edge or upper corners, and pull the adapter from the riser-card assembly.



- e. Place the riser-card assembly on a flat, static-protective surface.
6. If you are instructed to return the adapter, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing an adapter

Note:

- The instructions in this section apply to any supported adapter (for example, network adapters).
- See “Installing an adapter” on page 64 for additional notes and information that you must consider when you install an adapter in the server.
- Any high-definition video-out connector or stereo connector on any add-on video adapter is not supported.

To replace an adapter, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and the “Installation guidelines” on page 33.
2. Follow the cabling instructions, if any come with the adapter. Route the internal adapter cables before you install the adapter.
3. **Install the new adapter in a PCIe slot on the system board,**
 - a. Make sure that the retention latch is in the open position.
 - b. Connect any internal cables to the adapter.
 - c. Insert the adapter into the connector, aligning the edge connector on the adapter with the connector on the system board.
 - d. Press the edge of the connector on the adapter *firmly* into the connector on the system board. Make sure that the adapter snaps into connector securely.

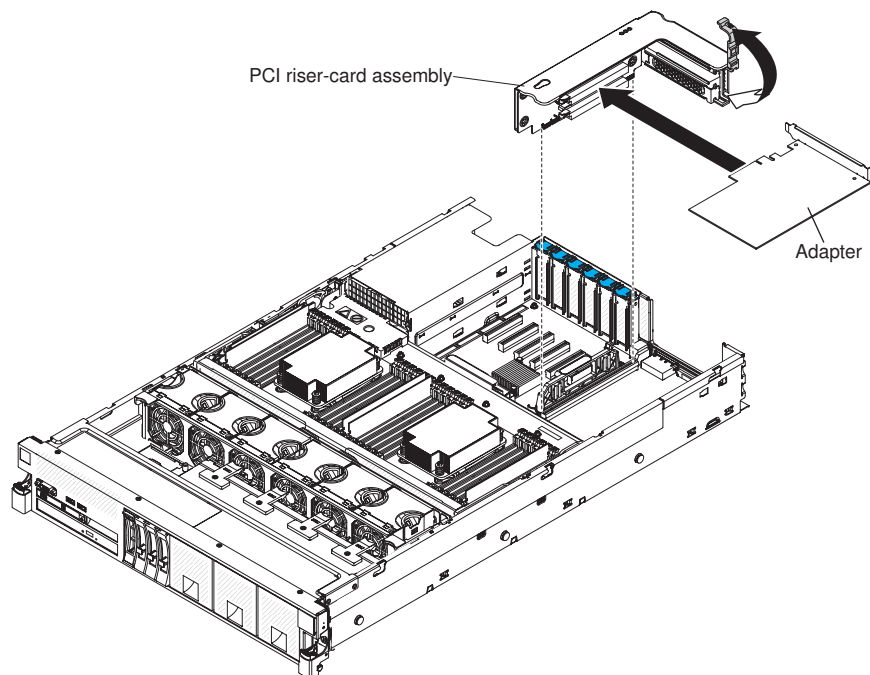
Attention: When you install an adapter, make sure that the adapter is correctly seated on the system board before you turn on the server. An incorrectly seated adapter might cause damage to the system board or the adapter.

- e. Close the adapter retention clip to secure the adapter in place.
- f. Go to step 5.

4. **Install the new adapter on the PCIe riser-card assembly,**

- a. Make sure that the PCIe retention latch is in the open position.
- b. Connect any internal cables to the adapter.
- c. Insert the adapter into the riser-card assembly, aligning the edge connector on the adapter with the connector on the riser-card assembly.
- d. Press the edge of the connector *firmly* into the riser-card assembly. Make sure that the adapter snaps into the riser-card assembly securely.

Attention: When you install an adapter, make sure that the adapter is correctly seated in the riser-card assembly and that the riser-card assembly is securely seated in the riser-card connector on the system board before you turn on the server. An incorrectly seated adapter might cause damage to the system board, the riser-card assembly, or the adapter.



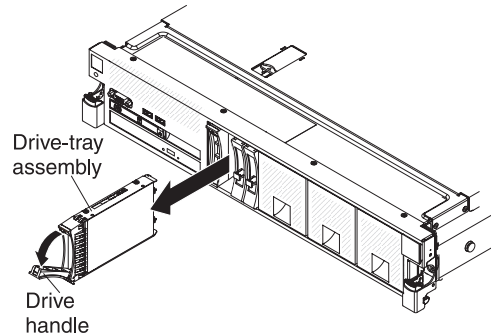
- e. Close the adapter retention latch to secure the adapter in place.
 - f. Install the riser-card assembly in the server (see “Replacing a PCI riser-card assembly” on page 250).
- 5. Connect any external cables to the adapter, if necessary.
 - 6. Perform any configuration tasks that are required for the adapter.
 - 7. Install the cover (see “Replacing the server top cover” on page 200).
 - 8. Slide the server into the rack.
 - 9. Reconnect the power cord and any cables that you removed.
 - 10. Turn on the peripheral devices and the server.

Removing 2.5-inch and 1.8-inch hot-swap drives

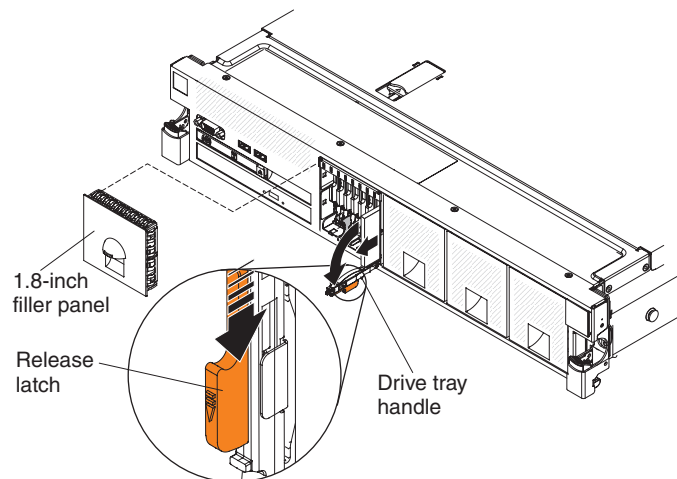
To remove a hot-swap drive, complete the following steps.

Attention:

- To avoid damage to the drive connectors, make sure that the server cover is in place and fully closed whenever you install or remove a drive.
 - To make sure that there is adequate system cooling, do not operate the server for more than 2 minutes without either a drive or a filler panel installed in each bay.
1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
 2. **Removing a 2.5-inch hot-swap drive:**
 - a. Slide the release latch (orange) up gently to unlock the drive handle



- b. Grasp the handle and pull the drive out of the drive bay.
 - c. Skip to step 4.
3. **Removing a 1.8-inch hot-swap drive:**
 - a. Remove the filler panel.
 - b. Grasp the orange release latch on the drive tray handle of the drive tray for the drive that you want to remove and slide the release latch down to unlock the drive-tray handle; then, rotate the drive tray handle down and the pull the handle toward you to slide the drive out of the bay. Lift the drive out of the drive tray.



4. If you are instructed to return the drive assembly, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

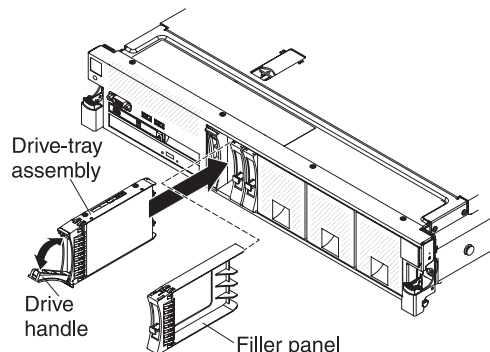
Replacing 2.5-inch and 1.8-inch hot-swap drives

The following notes describe the type of drives that the server supports and other information that you must consider when you install a drive. For a list of supported drives, see <http://www.ibm.com/servers/eserver/serverproven/compat/us/>.

- Locate the documentation that comes with the drive and follow those instructions in addition to the instructions in this chapter.
- Make sure that you have all the cables and other equipment that are specified in the documentation that comes with the drive.
- The server can support up to 16 2.5-inch drives, up to 32 1.8-inch drives, or a combination of both 2.5-inch and 1.8-inch hot-swap drives, using the supported SAS\SATA backplane configurations. The server supports 2.5-inch hot-swap SAS or hot-swap SATA hard disk drives, 2.5-inch hot-swap solid state drive, or 1.8-inch hot-swap solid state drives (see “Supported SAS/SATA drive backplane configurations” on page 52 for more information).
- You can mix 2.5-inch hot-swap SAS and SATA hard disk drives, 2.5-inch hot-swap solid state drive, and 1.8-inch hot-swap solid state drives in the same server as long as they are not on the same array.
- When upgrading drive backplane configurations, all 1.8-inch SSD drive backplanes must be installed to the right of all 2.5-inch HDD or 2.5-inch SSD drive backplanes. All 2.5-inch backplanes install to the left of all 1.8-inch backplanes. See “Drive IDs” on page 51 for drive ID assignment information and “Supported SAS/SATA drive backplane configurations” on page 52 for information about the combination of supported drive backplane configurations.
- The electromagnetic interference (EMI) integrity and cooling of the server are protected by having all bays and PCI and PCI Express slots covered or occupied. When you install a drive, save the EMC shield and filler panel from the bay in the event that you later remove the device.
- For a complete list of supported optional devices for the server, see <http://www.ibm.com/servers/eserver/serverproven/compat/us/>.

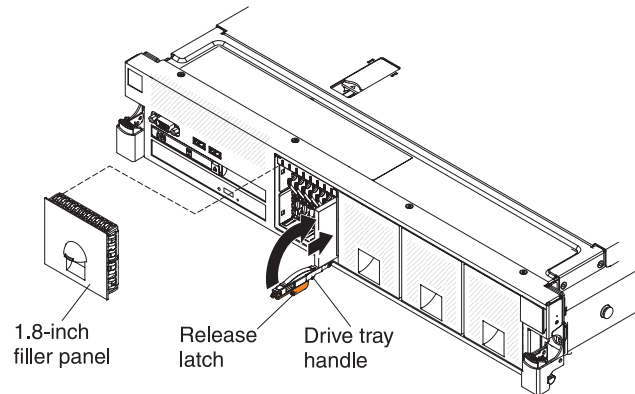
To install a hot-swap drive, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Touch the static-protective package that contains the drive to any unpainted metal surface on the server; then, remove the drive from the package and place it on a static-protective surface.
3. **Install a 2.5-inch hot-swap drive:**
 - a. Make sure that the drive-tray handle is in the open (unlocked) position.
 - b. Align the drive assembly with the guide rails in the bay.



- c. Gently push the drive-tray assembly into the bay until the drive stops.

- d. Rotate the drive-tray handle to the closed (locked) position.
4. **Installing a 1.8-inch hot-swap drive:**
 - a. Insert the drive into the drive bay with the label side of the drive facing the right side of the server.

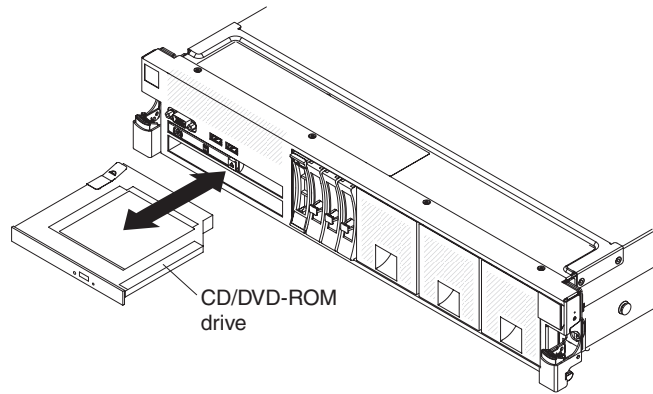


- b. Push the drive tray into the drive bay and rotate the drive tray handle to the closed position and ensure that the latch is in the locked position.
 5. Reinstall the drive filler panel.
 6. Check the drive status LED to verify that the drive is operating correctly. If the amber drive status LED for a drive is lit continuously, that drive is faulty and must be replaced. If the green drive activity LED is flashing, the drive is being accessed.
- Note:** If the server is configured for RAID operation using a ServeRAID adapter, you might have to reconfigure your disk arrays after you install drives. See the ServeRAID adapter documentation for additional information about RAID operation and complete instructions for using the ServeRAID adapter.
7. If you are installing additional hot-swap drives, do so now.
 8. Turn on the peripheral devices and the server.

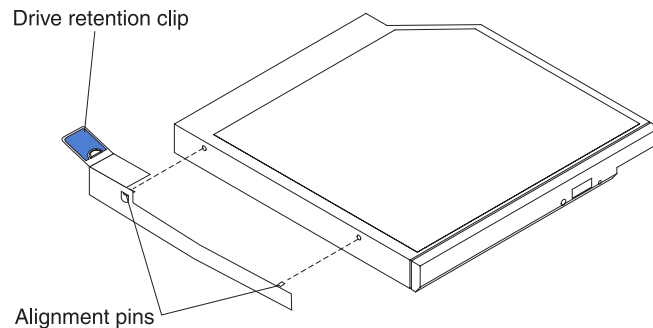
Removing a CD/DVD drive

To remove a CD/DVD drive, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the server cover (see “Removing the server top cover” on page 199).
4. Press and hold the release tab down as you push the drive from the rear to slide it out of the bay.



5. Slide the drive-retention clip from the side of the drive. Save the clip to use when you install the replacement drive.



6. If you are instructed to return the CD/DVD drive, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a CD/DVD drive

The following notes describe the type of drives that the server supports and other information that you must consider when you install a CD/DVD drive. For a list of supported drives, see <http://www.ibm.com/servers/eserver/serverproven/compat/us/>.

- Locate the documentation that comes with the drive and follow those instructions in addition to the instructions in this chapter.
- Make sure that you have all the cables and other equipment that are specified in the documentation that comes with the drive.
- The server supports one optional ultra-slim SATA CD-RW/DVD-ROM optical drive.

If you need to replace a CD/DVD drive, complete the following steps:

1. Read the safety information that begins on page "Safety" on page vii and "Installation guidelines" on page 33.
2. Touch the static-protective package that contains the new optical drive to any unpainted metal surface on the server; then, remove the drive from the package and place it on a static-protective surface.

Note: If you are installing a drive that contains a laser, observe the following safety precaution.

Statement 3



CAUTION:

When laser products (such as CD-ROMs, DVD drives, fiber optic devices, or transmitters) are installed, note the following:

- Do not remove the covers. Removing the covers of the laser product could result in exposure to hazardous laser radiation. There are no serviceable parts inside the device.
- Use of controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.



DANGER

Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following.

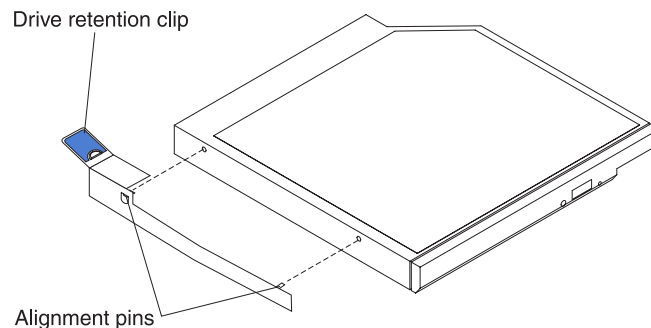
Laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.



Class 1 Laser Product
Laser Klasse 1
Laser Klass 1
Luokan 1 Laserlaite
Appareil À Laser de Classe 1

3. Attach the drive retention clip that you removed from the previous drive to the side of the new drive.

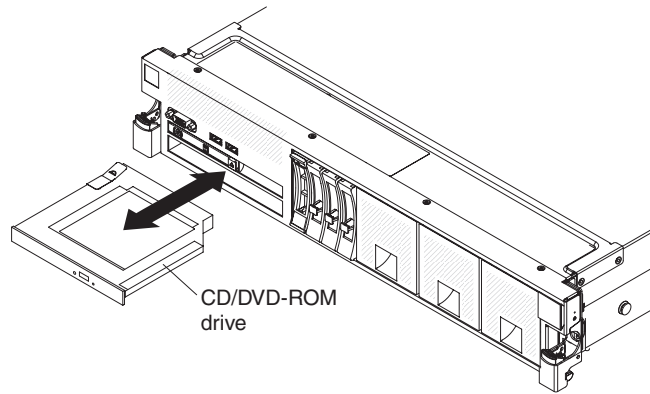
Drive retention clip



Alignment pins

4. Align the drive in the drive bay and slide the drive into the CD/DVD drive bay until the drive clicks into place.

Note: Be sure to align the bend on the drive retention clip tab with the rear edge of the CD/DVD drive. Your drive might have more mounting holes than what is shown in the illustration. Adjust the retention clip alignment based on your drive.

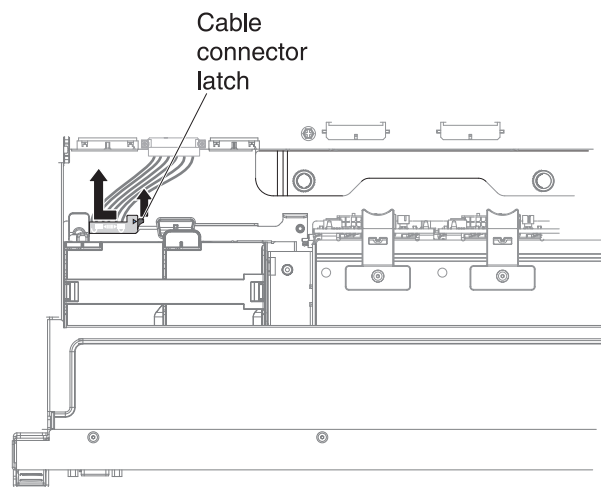


5. Reconnect the power cord and any cables that you removed.
6. Replace the server cover and slide the server back into the rack.
7. Turn on the peripheral devices and the server.

Removing the CD/DVD cable

To remove the CD/DVD cable, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the top cover (see “Removing the server top cover” on page 199).
4. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 237).
5. Slide the CD/DVD out of the server (see “Removing a CD/DVD drive” on page 211).
6. Facing the front of the server, grasp the cable connector latch (right of the cable connector) and pull it up toward the rear of the server; then, slide the cable connector to the left to disconnect it from the optical drive connector on the rear of the optical drive cage.

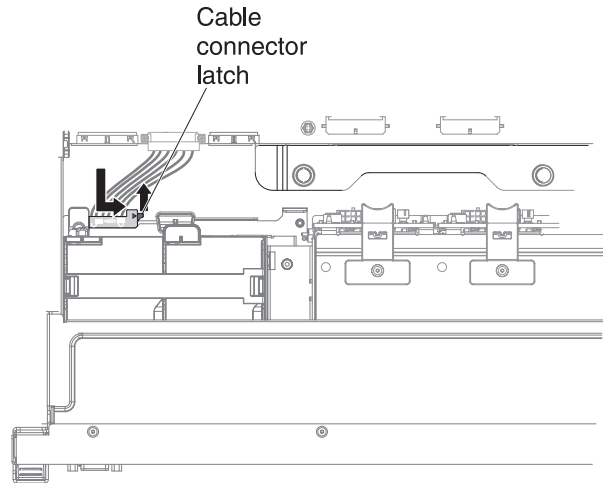


7. Disconnect the other end of the cable from the optical drive connector on the system board.
8. If you are instructed to return the CD/DVD cable, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

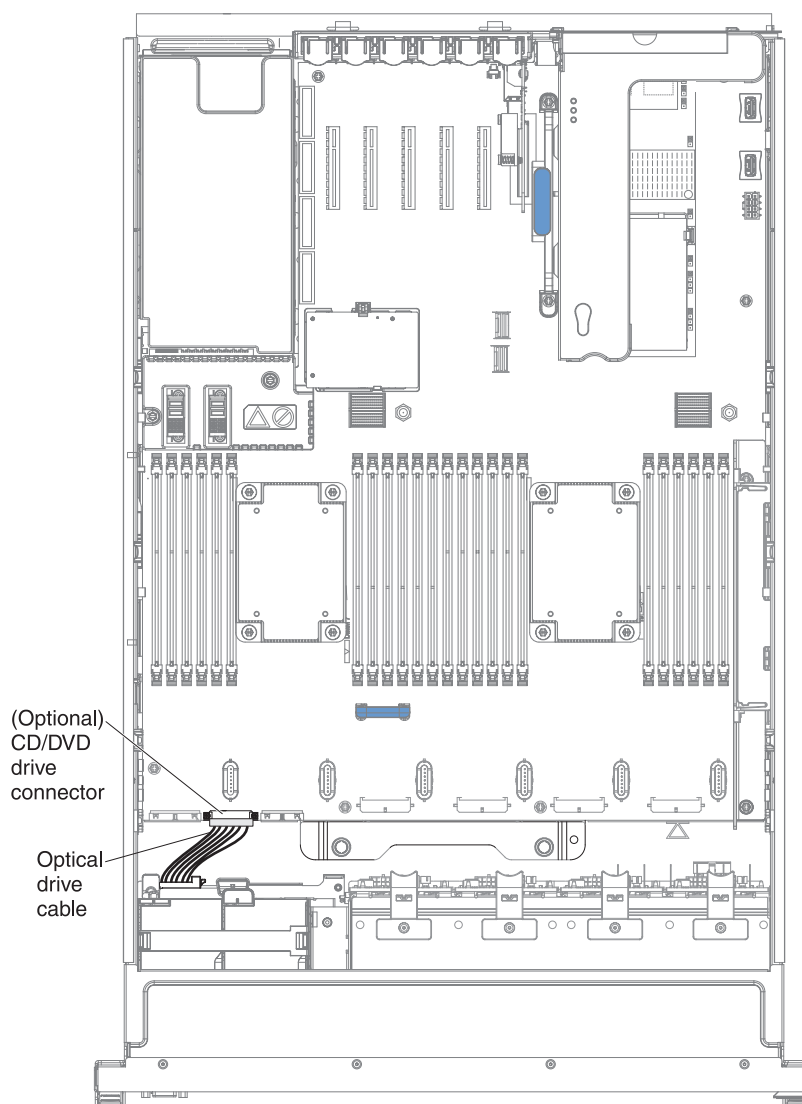
Replacing the CD/DVD cable

To install the CD/DVD cable, complete the following cable:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Align the cable connector with the connector on the rear of the optical drive and push the cable connector into the optical drive connector until it is firmly seated.
3. Slide the cable connector to the right to lock the cable in place.



4. Connect the other end of the CD/DVD drive cable to the system board.



5. Slide the CD/DVD back into the server.
6. Reinstall the fan cage assembly (see “Replacing the fan cage assembly” on page 238).
7. Replace the cover (see “Replacing the server top cover” on page 200).
8. Slide the server into the rack.
9. Reconnect the power cord and any cables that you removed.
10. Turn on the peripheral devices and the server.

Removing a memory module

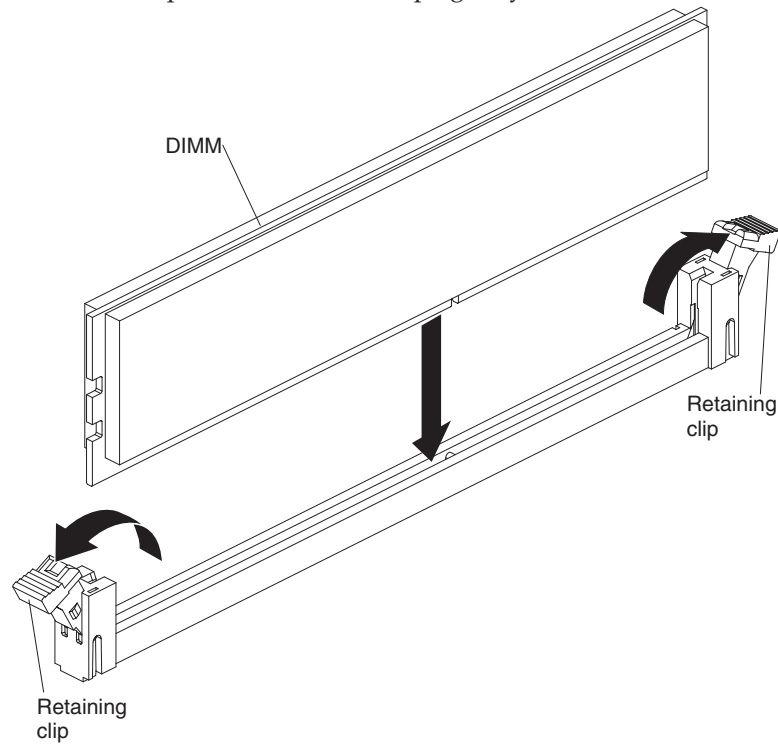
To remove a dual inline memory module (DIMM), complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the top cover (see “Removing the server top cover” on page 199).

4. If the DIMM is on the system board, remove the DIMM air baffle (see “Removing the DIMM air baffle” on page 204) or microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269).

5. Carefully open the retaining clips on each end of the DIMM connector and remove the DIMM.

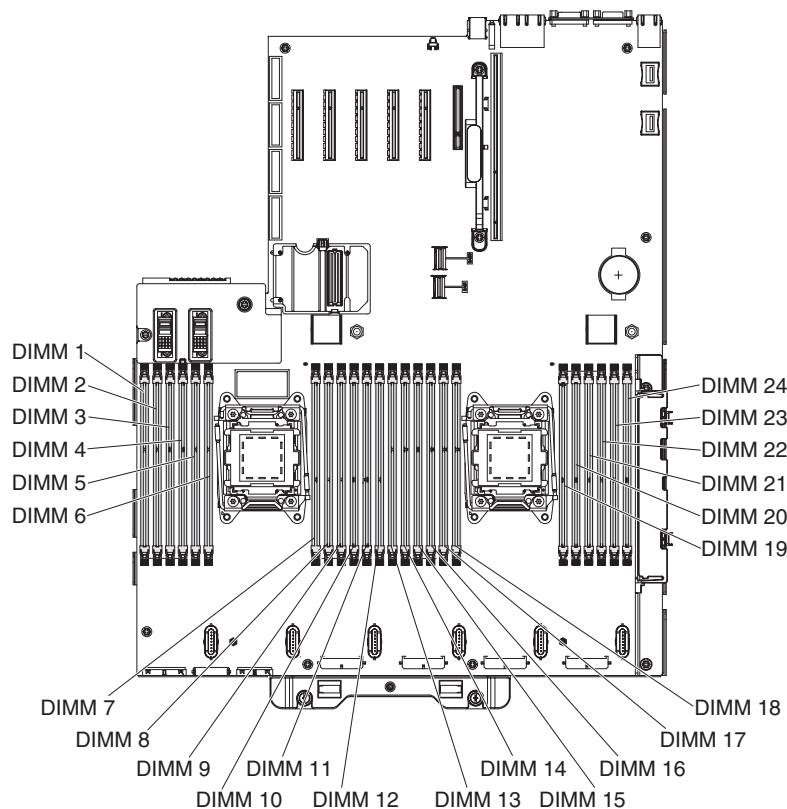
Attention: To avoid breaking the retaining clips or damaging the DIMM connectors, open and close the clips gently.



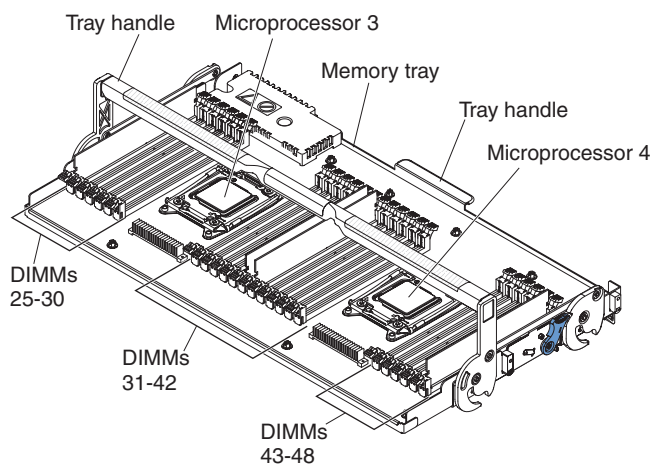
6. If you are instructed to return the DIMM, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a memory module

The following illustration shows the location of the DIMM connectors on the system board.



The following illustration shows the location of the DIMMs on the optional microprocessor and memory expansion tray:

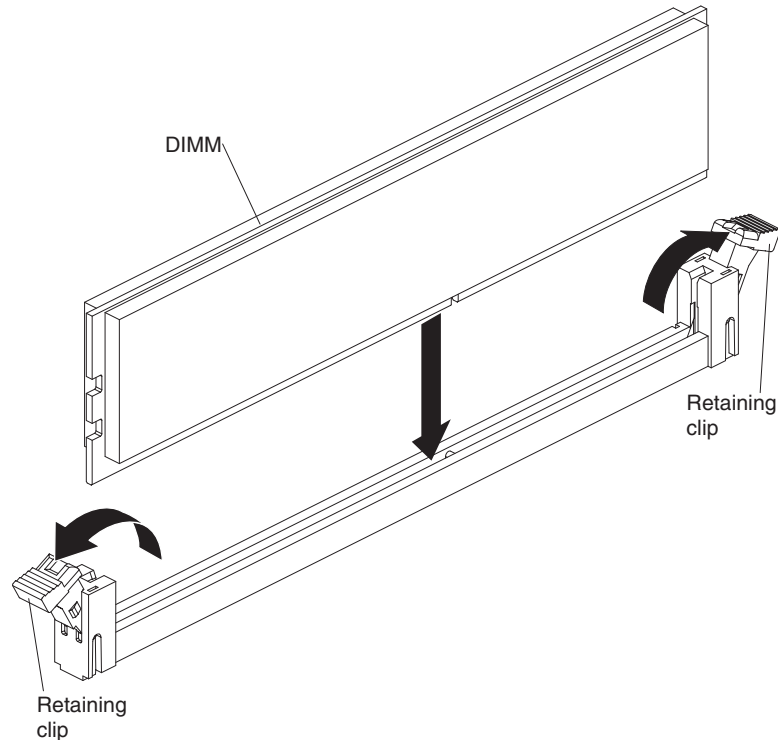


Note:

- See “Installing a memory module” on page 40 for notes and information that you must consider when you install DIMMs. For DIMM population information, see “Non-mirroring (independent mode)” on page 43, “Memory mirroring” on page 43, and “Memory sparing” on page 45.
- Confirm that the server supports the DIMM that you are installing, see <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/>.

To install a DIMM, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
 2. Turn off the server and peripheral devices and disconnect the power cords and all external cables, if necessary.
 3. Remove the top cover (see “Removing the server top cover” on page 199).
 4. Touch the static-protective package that contains the DIMM to any unpainted metal surface on the outside of the server. Then, remove the DIMM from the package.
 5. Open the retaining clip on each end of the DIMM connector.
- Attention:** To avoid breaking the retaining clips or damaging the DIMM connectors, open and close the clips gently.



6. Turn the DIMM so that the DIMM keys align correctly with the connector.
7. Insert the DIMM into the connector by aligning the edges of the DIMM with the slots at the ends of the DIMM connector (see “System-board optional-device connectors” on page 31 for the locations of the DIMM connectors).
8. Firmly press the DIMM straight down into the connector by applying pressure on both ends of the DIMM simultaneously. The retaining clips snap into the locked position when the DIMM is firmly seated in the connector.

Note: If there is a gap between the DIMM and the retaining clips, the DIMM has not been correctly inserted; open the retaining clips, remove the DIMM, and then reinsert it.

9. Replace the DIMM air baffle (see “Replacing the DIMM air baffle” on page 205) or the microprocessor and memory expansion tray (see “Replacing the microprocessor and memory expansion tray assembly” on page 117), if you removed it earlier.
10. Reconnect the power cord and any cables that you removed.
11. Replace the cover (see “Replacing the server top cover” on page 200).

12. Turn on the peripheral devices and the server.

Removing the ServeRAID M1115 SAS/SATA Controller for System x

To remove the ServeRAID M1115 SAS/SATA Controller for System x, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the top cover (see “Removing the server top cover” on page 199).
4. Disconnect the signal cables from the adapter.
5. Disconnect the cable from the RAID cache card, if one is installed (see “Removing a RAID cache card” on page 242).
6. Grasp the riser-card assembly at the blue touch points and pull it up until the riser-card assembly disengages from the connector on the system board.
7. Remove the adapter from the riser card.
8. If you are instructed to return the SAS/SATA adapter, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the ServeRAID M1115 SAS/SATA Controller for System x

Note: For additional information and notes about installing adapters, see “Installing an adapter” on page 64.

The ServeRAID M1115 SAS/SATA adapter provides base RAID levels 0, 1, and 10 support. See “Supported adapters” on page 66 and Table 15 on page 65 for more information. For configuration information, see the ServeRAID documentation at <http://www.ibm.com/supportportal/>.

Attention: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

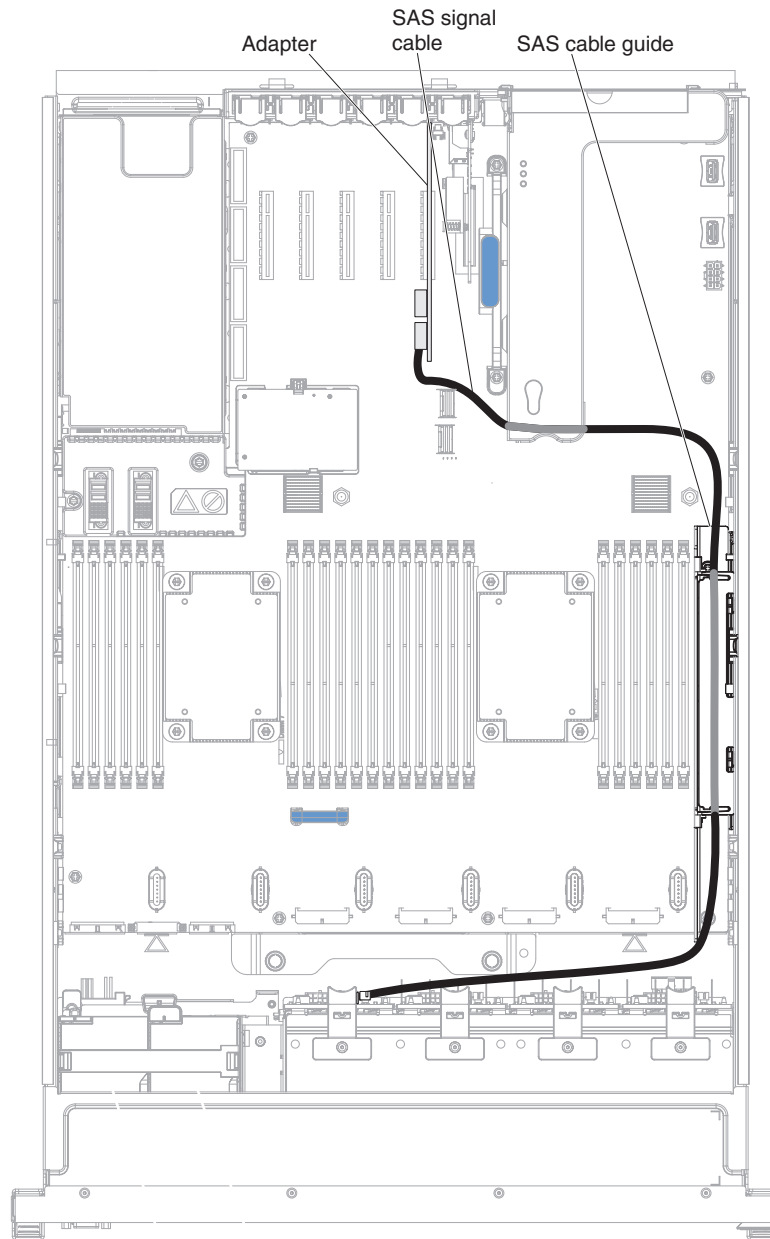
To install the adapter, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Touch the static-protective package that contains the new ServeRAID M1115 SAS/SATA adapter to any unpainted surface on the outside of the server; then, grasp the adapter by the top edge or upper corners of the adapter and remove it from the package.
3. Align the ServeRAID M1115 SAS/SATA adapter so that the keys align correctly with the connector on the riser-card assembly.
4. Insert the SAS/SATA adapter into the connector on the riser-card until it is firmly seated.

Attention: Incomplete insertion might cause damage to the server or the adapter.

5. Reinstall the cable to the RAID cache card, if it was removed (see “Replacing a RAID cache card” on page 244).
6. Reinstall the riser-card assembly onto the connector on the system board.

7. Reconnect the signal cables to the adapter.



8. Replace the cover (see "Replacing the server top cover" on page 200).
9. Reconnect the power cord and any cables that you removed.
10. Slide the server in the rack.
11. Turn on the peripheral devices and the server.

Removing the ServeRAID M5110 SAS/SATA Controller for System x

To remove the ServeRAID M5110 SAS/SATA controller, complete the following steps:

1. Read the safety information and installation guidelines, see "Safety" on page vii and "Installation guidelines" on page 33.
2. Turn off the server (see "Turning off the server" on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.

3. Remove the top cover (see “Removing the server top cover” on page 199).
4. Disconnect the signal cables from the adapter.
5. Disconnect the cable from the RAID cache card, if one is installed (see “Removing a RAID cache card” on page 242).
6. Carefully grasp the riser-card assembly by the blue touch points and pull up until the riser-card assembly disengages from the connector on the system board.
7. Remove the adapter from the riser card.
8. If you are instructed to return the adapter, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the ServeRAID M5110 SAS/SATA Controller for System x

Note: For additional information and notes about installing adapters, see “Installing an adapter” on page 64.

You can purchase the optional ServeRAID M5110 SAS/SATA Controller for System x. The ServeRAID M5110 adapter provides base RAID levels 0, 1, and 10 support. See “Supported adapters” on page 66 and Table 15 on page 65 for more information. For configuration information, see the ServeRAID documentation at <http://www.ibm.com/supportportal/>.

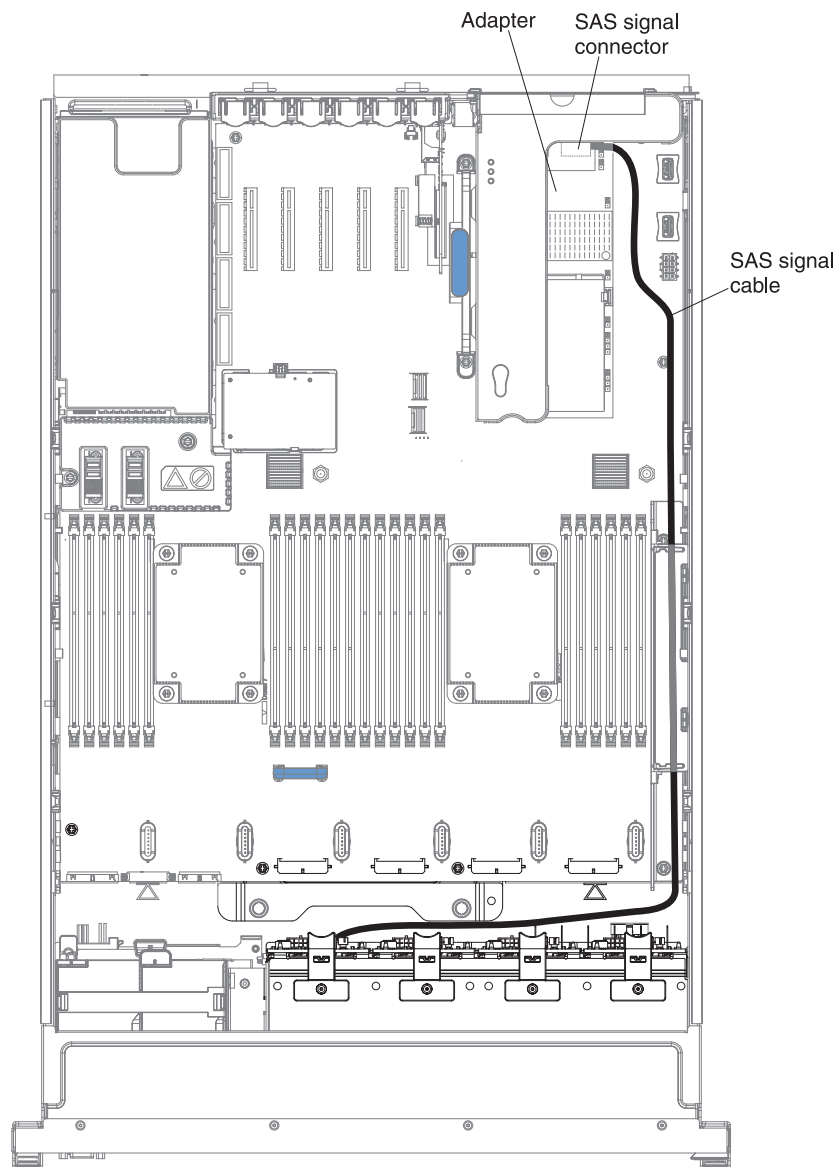
Attention: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

To install the ServeRAID M5110 SAS/SATA adapter, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Touch the static-protective package that contains the new ServeRAID M5110 SAS/SATA adapter to any unpainted surface on the outside of the server; then, grasp the adapter by the top edge or upper corners of the adapter and remove it from the package.
3. Align the ServeRAID M5110 SAS/SATA adapter so that the keys align correctly with the connector on the riser-card assembly.
4. Insert the SAS/SATA adapter into the connector on the riser-card until it is firmly seated.

Attention: Incomplete insertion might cause damage to the server or the adapter.

5. Reinstall the cable to the RAID cache cards, if it was removed (see “Replacing a RAID cache card” on page 244).
6. Reinstall the riser-card assembly into the system board.
7. Reconnect cables to the adapter.



8. Replace the cover (see “Replacing the server top cover” on page 200).
9. Slide the server in the rack.
10. Reconnect the power cord and any cables that you removed.
11. Turn on the peripheral devices and the server.

Removing the ServeRAID M5120 SAS/SATA Controller for System X

To remove a ServeRAID M5120 SAS/SATA controller, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the top cover (see “Removing the server top cover” on page 199).
4. **Remove the adapter from the system board.**
 - a. Disconnect the cables from the existing adapter.

- b. Disconnect the cable from the RAID cache card, if a cache card is installed on the adapter.
 - c. Carefully grasp the adapter by the edges and pull it out of the connector on the system board.
 - d. Remove the RAID cache card from the adapter (see “Removing a RAID cache card” on page 242).
 - e. Go to step 6.
5. **Remove the adapter from the PCIe riser-card assembly.**
- a. Disconnect the cables from the existing adapter.
 - b. Disconnect the cable from the RAID cache card, if a cache card is installed on the adapter.
 - c. Carefully grasp the riser card by the blue touch points and pull it up until the riser-card assembly disengages from the connector on the system board and set it aside.
 - d. Carefully grasp the adapter and pull it out of the riser-card assembly.
 - e. Remove the RAID cache card from the adapter (see “Removing a RAID cache card” on page 242).
6. If you are instructed to return the adapter, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the ServeRAID M5120 SAS/SATA Controller for System x

Note: For additional information and notes about installing adapters, see “Installing an adapter” on page 64.

You can purchase the optional ServeRAID M5120 SAS/SATA Controller for System x. The ServeRAID M5120 adapter provides base RAID levels 0, 1, and 10 support. See “Supported adapters” on page 66 and Table 15 on page 65 for more information. For configuration information, see the ServeRAID documentation at <http://www.ibm.com/supportportal/>.

Attention: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

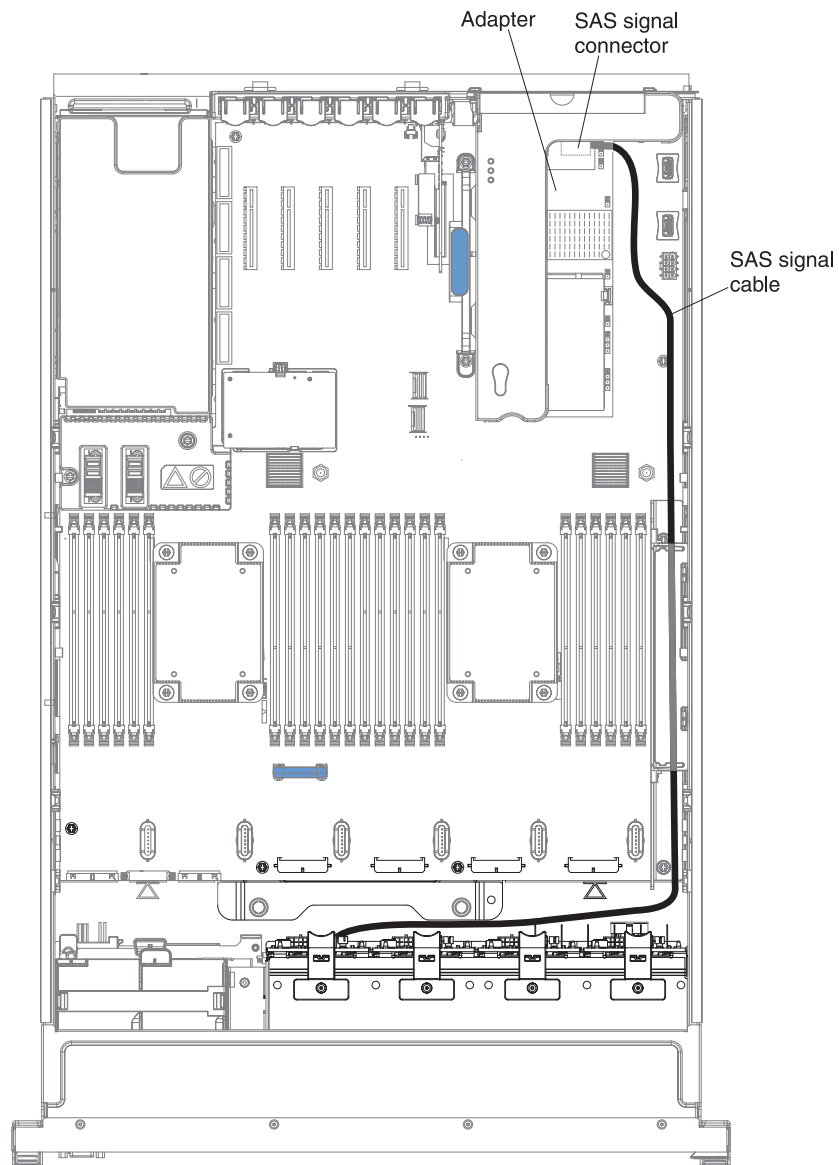
To install a ServeRAID M5120 SAS/SATA adapter, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Touch the static-protective package that contains the new ServeRAID M5120 SAS/SATA adapter to any unpainted surface on the outside of the server; then, grasp the adapter by the top edge or upper corners of the adapter and remove it from the package.
3. **Install the adapter on system board.**
 - a. Reinstall the RAID cache card onto the adapter, if one was removed earlier (see “Replacing a RAID cache card” on page 244).
 - b. Align the ServeRAID M5120 adapter so that the keys align correctly with the connector on the system board.
 - c. Insert the adapter into the connector on the system board until it is firmly seated.

Attention: Make sure that the adapter is seated correctly. Incomplete insertion might cause damage to the system board or the adapter.

- d. Reconnect the cables to the adapter and to the cache card.
- e. Go to step 5.
4. **Install the adapter on the PCIe riser-card assembly.**
 - a. Reinstall the RAID cache card on the adapter, if one was removed earlier (see “Replacing a RAID cache card” on page 244).
 - b. Align the ServeRAID M5120 adapter so that the keys align correctly with the connector on the riser-card assembly.
 - c. Insert the adapter into the connector on the riser-card until it is firmly seated.

Attention: Make sure that the adapter is seated correctly. Incomplete insertion might cause damage to the system board, the adapter, and the PCIe riser card assembly.



- d. Reinstall the riser-card assembly onto the system board.
- e. Reconnect the cables to the adapter and to the cache card.
5. Replace the cover (see “Replacing the server top cover” on page 200n).
6. Slide the server in the rack.

7. Reconnect the power cord and any cables that you removed.
8. Turn on the peripheral devices and the server.

Removing the IBM 6Gb Performance Optimized Host Bus Adapter

To remove the 6Gb Performance Optimized Host Bus Adapter, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the top cover (see “Removing the server top cover” on page 199).
4. **Remove the adapter from the system board.**
 - a. Open the PCIe retention latch.
 - b. Disconnect the cables from the existing adapter.
 - c. Carefully grasp the adapter by the edges and pull it out of the connector on the system board.
 - d. Go to step 6.
5. **Remove the adapter from the PCIe riser-card assembly.**
 - a. Disconnect the cables from the existing adapter.
 - b. Carefully grasp the riser card by the blue touch points and pull it up until the riser-card assembly disengages from the connector on the system board and set it aside.
 - c. Open the PCIe retention latch.
 - d. Carefully grasp the adapter and pull it out of the riser-card assembly.
6. If you are instructed to return the adapter, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the IBM 6Gb Performance Optimized Host Bus Adapter

Note: For additional information and notes about installing adapters, see “Installing an adapter” on page 64.

You can purchase the optional IBM 6Gb Performance Optimized Host Bus Adapter. This solid state driver controller provides no RAID support; however, it helps to provide optimized performance for applications that do not need RAID support. See “Supported adapters” on page 66 and Table 15 on page 65 for more information. For configuration information, see the ServeRAID documentation at <http://www.ibm.com/supportportal/>.

Attention: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

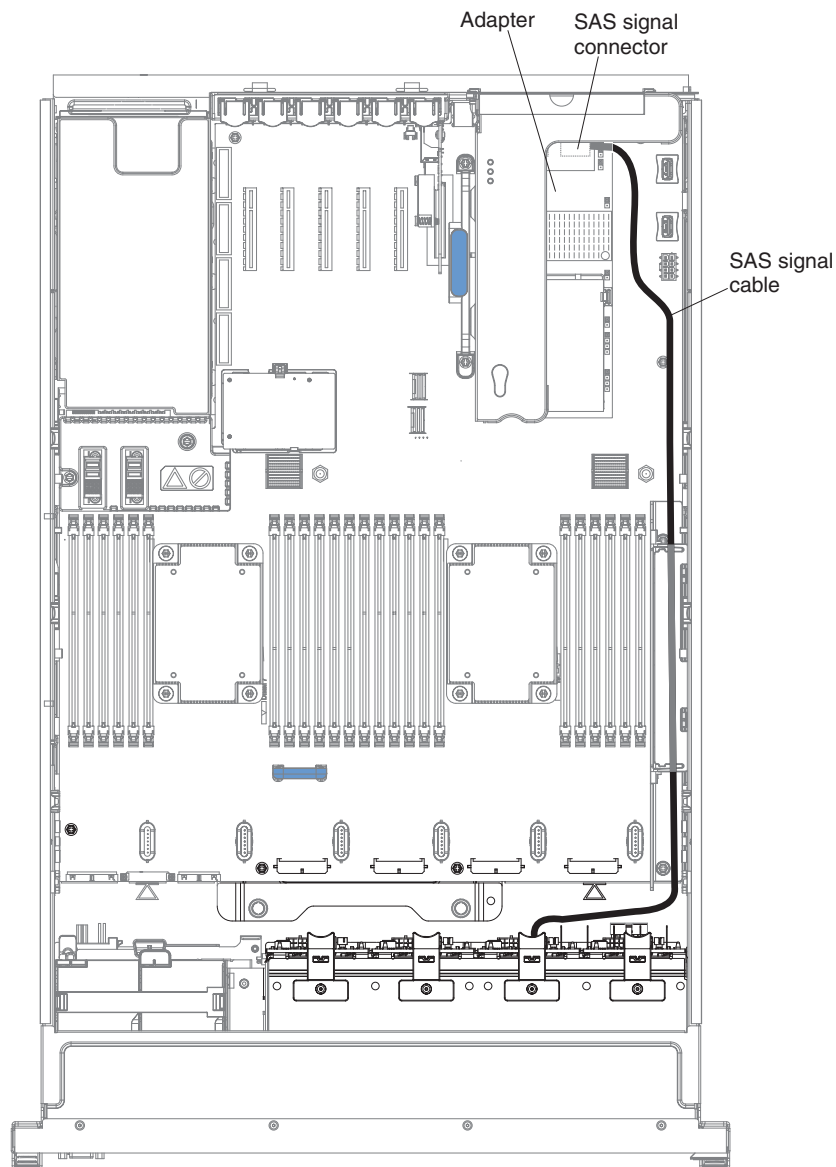
To install the adapter, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.

2. Touch the static-protective package that contains the new 6Gb host bus adapter to any unpainted surface on the outside of the server; then, grasp the adapter by the top edge or upper corners of the adapter and remove it from the package.
3. **Install the adapter on system board.**
 - a. Align the adapter so that the keys align correctly with the connector on the system board.
 - b. Insert the adapter into the connector on the system board until it is firmly seated.

Attention: Make sure that the adapter is seated correctly. Incomplete insertion might cause damage to the system board or the adapter.
 - c. Close the PCIe retention latch.
 - d. Reconnect the cables to the adapter.
 - e. Go to step 5 on page 228.
4. **Install the adapter on the PCIe riser-card assembly.**
 - a. Align the adapter so that the keys align correctly with the connector on the riser-card assembly.
 - b. Insert the adapter into the connector on the riser-card until it is firmly seated.

Attention: Make sure that the adapter is seated correctly. Incomplete insertion might cause damage to the system board, the adapter, and the PCIe riser card assembly.
 - c. Close the PCIe retention latch.
 - d. Reinstall the riser-card assembly onto the system board.
 - e. Reconnect the cables to the adapter.



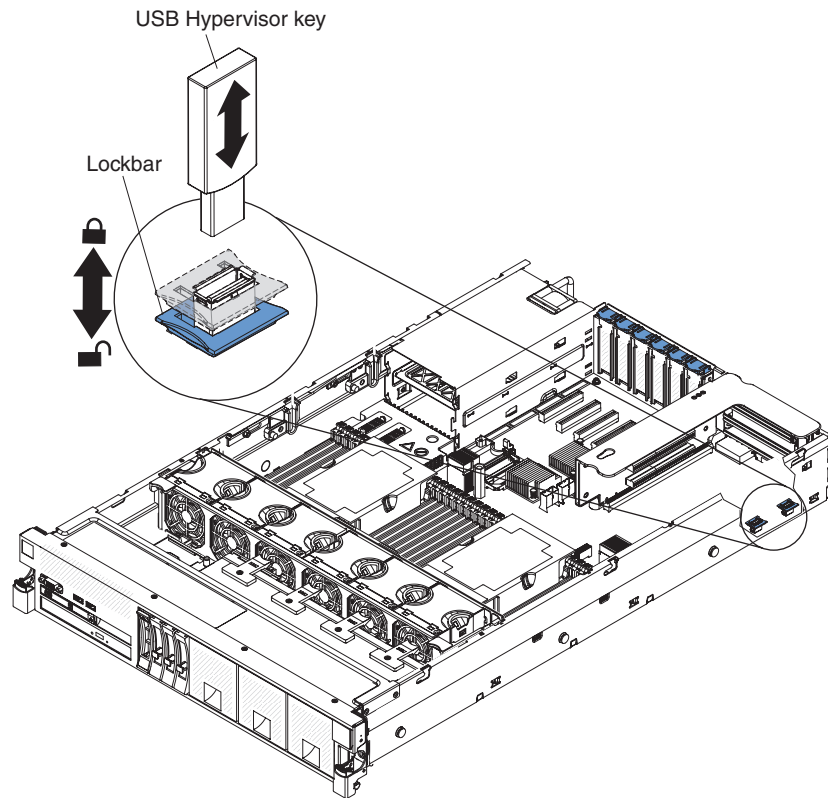
5. Replace the cover (see “Replacing the server top cover” on page 200).
6. Slide the server in the rack.
7. Reconnect the power cord and any cables that you removed.
8. Turn on the peripheral devices and the server.

Removing a USB embedded hypervisor flash device

To remove a USB embedded hypervisor flash device, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the top cover (see “Removing the server top cover” on page 199).
4. If any adapters are installed in the PCI riser-card assembly, disconnect any cables that are connected to the adapters.
5. Remove the PCIe riser-card assembly (see “Removing a PCI riser-card assembly” on page 250).

6. Locate the USB embedded hypervisor flash device connector on the system board.
7. Slide the lockbar on the USB flash device connector down to the unlocked position and pull the USB flash device out of the connector.

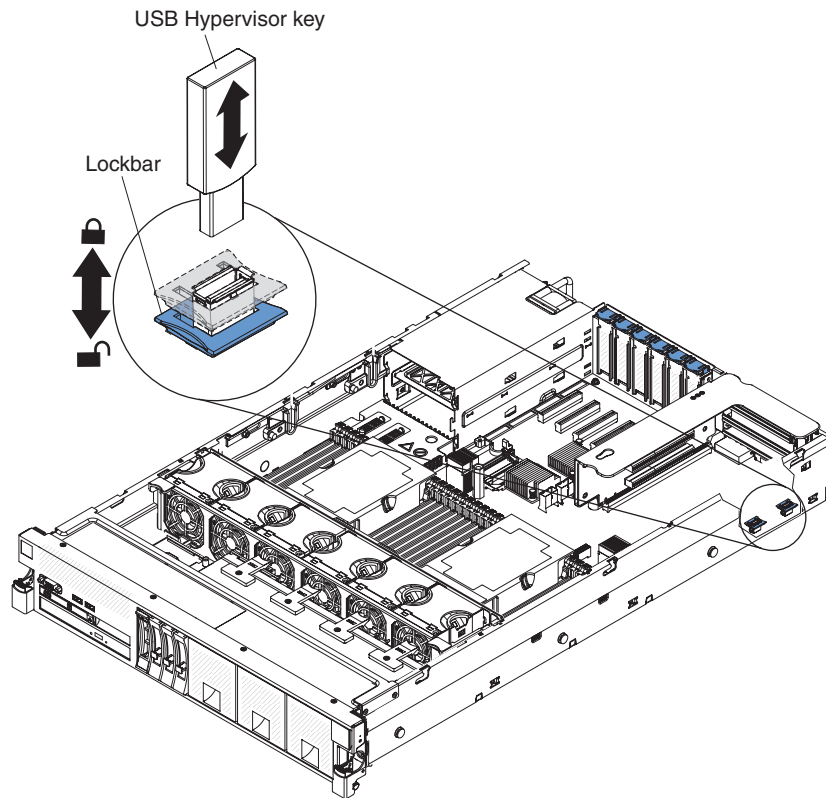


8. If you are instructed to return the flash device, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a USB embedded hypervisor flash device

To install a USB hypervisor flash device, complete the following steps:

1. Read the safety information that begins on page "Safety" on page vii and "Installation guidelines" on page 33.
2. Align the USB flash device with the connector on the system board and push it into the connector until it is firmly seated.
3. Slide the lockbar to the locked position until the lockbar is seated firmly.



4. Reinstall the PCIe riser-card assembly (see “Replacing a PCI riser-card assembly” on page 250).
5. Reconnect the cables to the adapters, if any were installed in the PCI riser-card.
6. Reconnect the power cord and any cables that you removed.
7. Install the cover (see “Replacing the server top cover” on page 200).
8. Slide the server into the rack.
9. Turn on the peripheral devices and the server.

Removing a 1400-watt or 900-watt hot-swap power supply

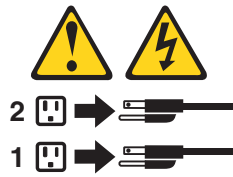
When you remove or install a hot-swap power supply, observe the following precautions.

Statement 5



CAUTION:

The power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.



Statement 8



CAUTION:

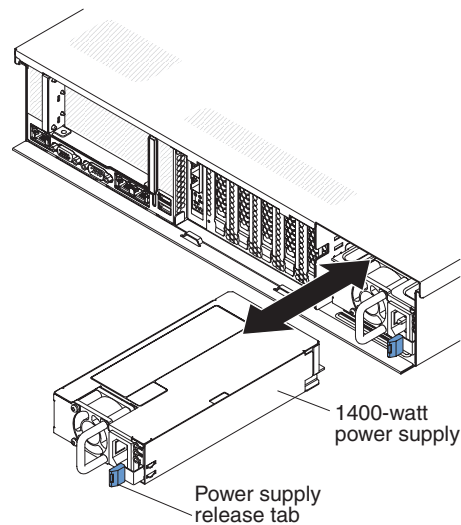
Never remove the cover on a power supply or any part that has the following label attached.



Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

To remove a hot-swap power supply, complete the following steps:

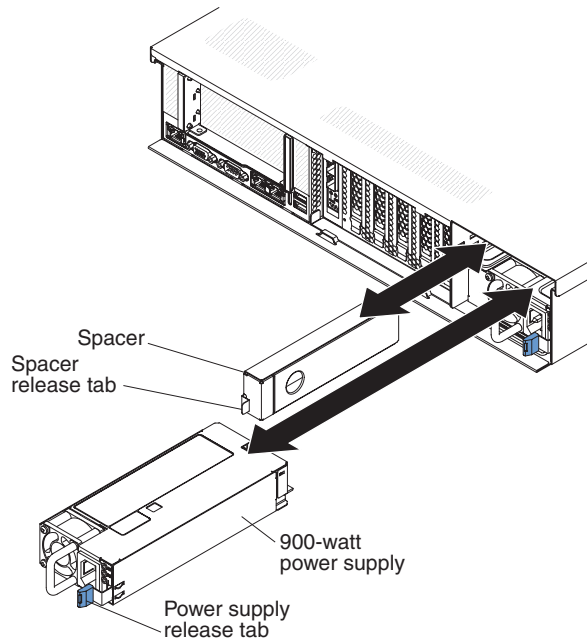
1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. If only one power supply is installed, turn off the server and peripheral devices and disconnect all power cords.
3. If the server is in a rack, at the back of the server, pull back the cable management arm to gain access to the rear of the server and the power supply.
4. **Removing a 1400-watt hot-swap power supply.**
 - a. Press and hold the orange release tab to the left. Grasp the handle and pull the power supply out of the server.



- b. Set the power supply aside.
- c. Go to step 6.

5. Removing a 900-watt hot-swap power supply.

- a. Press and hold the orange release tab to the left. Grasp the power supply handle and pull the power supply out of the server.



- b. Facing the rear of the server, pull the spacer release tab on the power supply spacer to the right, use your finger to grasp the hole on the side of the spacer, and slide the power supply spacer out of the server.

Note: You only need to remove the spacer if you are removing all of the 900-watt power supplies and installing 1400-watt power supplies in the server.

- c. Set the power supply spacer aside.
- 6.** If you are instructed to return the power supply, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a 1400-watt or 900-watt hot-swap power supply

The following notes describe the type of power supply that the server supports and other information that you must consider when you install a power supply:

- The server comes standard with one 900-watt (input voltage 110 or 220 V ac auto-sensing) hot-swap power supply or one 1400-watt hot-swap power supply (input voltage 110 or 220 V ac auto-sensing) depending on your model.

Note: You cannot mix 110 V ac and 220 V ac input voltage power supplies in the server, it is not supported.

- Do not mix 900 watt and 1400 watt power supplies in the server, it is not supported.
- These power supplies are designed for parallel operation. In the event of a power-supply failure, the redundant power supply continues to power the system. The server supports a maximum of two power supplies.

Note: When two 900 watt or 1400 watt power supplies are installed and connected to 110 V power source, redundancy is available only for a limited configuration.

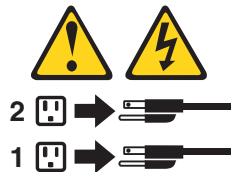
- The optional IBM Power Interposer for Redundant Power Option kit or the IBM Microprocessor and Memory Expansion Tray must be installed in the server to support two power supplies, if one is not installed in your model.

Statement 5



CAUTION:

The power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.



Statement 8



CAUTION:

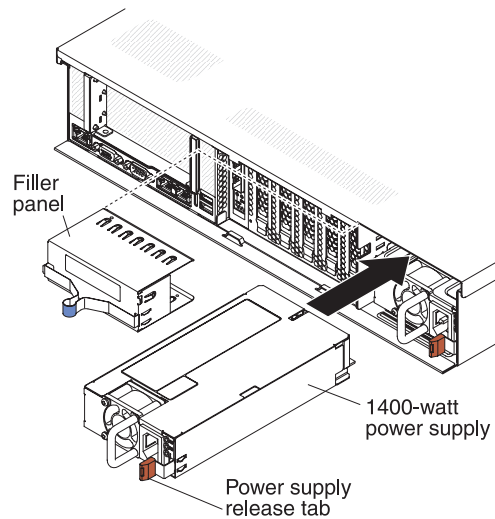
Never remove the cover on a power supply or any part that has the following label attached.



Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a with one of these parts, contact a service technician.

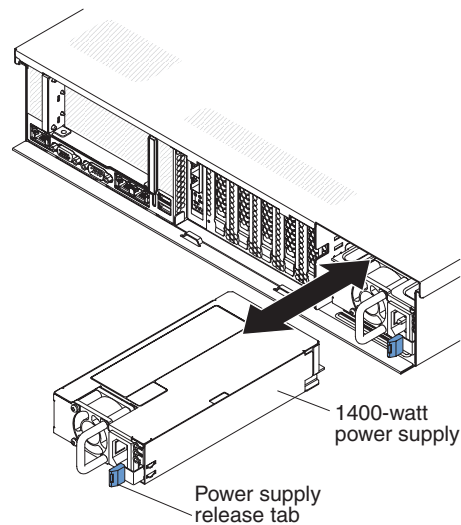
To install a hot-swap power supply, complete the following steps:

1. Touch the static-protective package that contains the hot-swap power supply to any unpainted metal surface on the server; then, remove the power supply from the package and place it on a static-protective surface.
2. If you are installing a hot-swap power supply into an empty bay, remove the power-supply filler panel from the power-supply bay.



3. Replacing a 1400-watt hot-swap power supply.

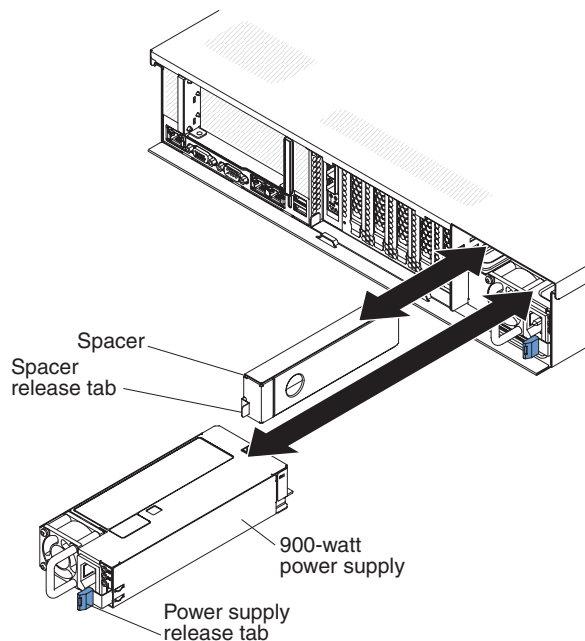
- a. Grasp the handle on the rear of the power supply and slide the power supply forward into the power-supply bay until it clicks into place



- b. Make sure that the power supply connects firmly into the power-supply connector.
- c. Go to step 5.

4. Replacing a 900-watt hot-swap power supply.

- a. Facing the rear of the server, insert the power supply spacer against the wall on the left side of the power supply bay, if you removed it.



- b. Slide the power supply spacer into the bay until it snaps into place on the tabs that are on the side of the bay.
 - c. Grasp the handle on the rear of the power supply and slide the power supply forward into the power-supply bay until it clicks. Make sure that the power supply connects firmly into the power-supply connector.
5. Route the power cord through the hook-and-loop strap so that it does not accidentally become disconnected.
 6. Connect the power cord for the new power supply to the power-cord connector on the power supply.
 7. Connect the other end of the power cord to a properly grounded electrical outlet.

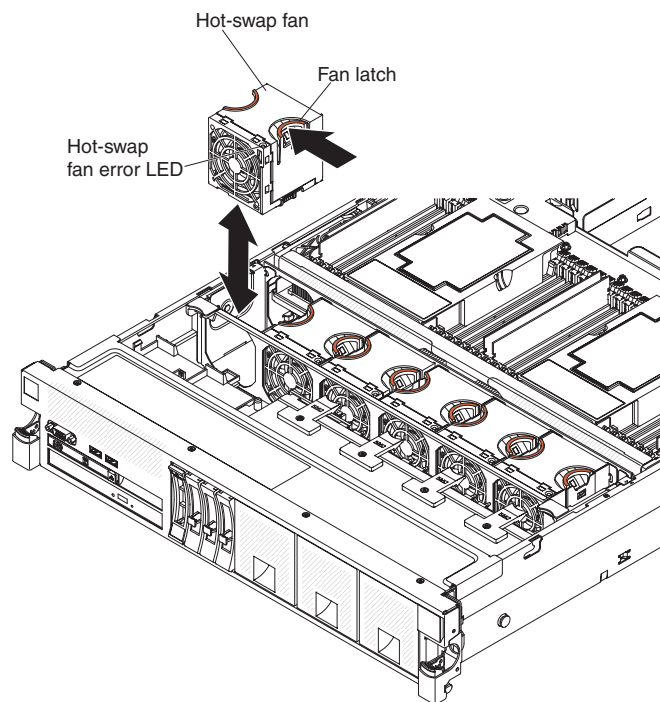
8. Turn on the peripheral devices and the server.
9. Make sure that the ac power LED and the dc power LED on the power supply are lit, indicating that power is being supplied to the power supply through the power cord. During normal operation, both ac and dc power LEDs are lit. For other combinations of LEDs, see “Power-supply LEDs” on page 156.

Removing a hot-swap fan assembly

Attention: To ensure proper server operation, replace a failed hot-swap fan within 30 seconds.

To remove a hot-swap-fan, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. If the server is in a rack, slide the server out of the rack.
3. Remove the top cover (see “Removing the server top cover” on page 199).
4. Pull the fan latch to the left to release the fan from the fan connector and pull the fan out of the fan cage assembly.



Attention: To ensure proper operation, replace a failed hot-swap fan within 30 seconds.

5. If you are instructed to return the fan, follow all of the packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a hot-swap fan assembly

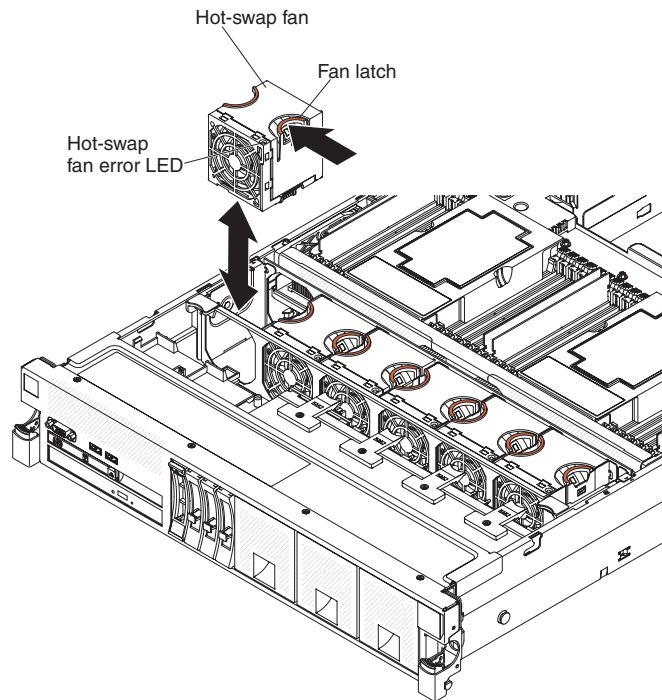
The server comes standard with six speed-controlled hot-swap cooling fans.

Attention: To ensure proper operation, replace a failed hot-swap fan within 30 seconds.

To install or replace a hot-swap fan, complete the following steps:

1. Touch the static-protective package that contains the new fan to any unpainted metal surface on the server. Then, remove the new fan from the package.

2. Orient the fan over the fan slot in the fan cage assembly so that the fan connector aligns with the connector on the system board.

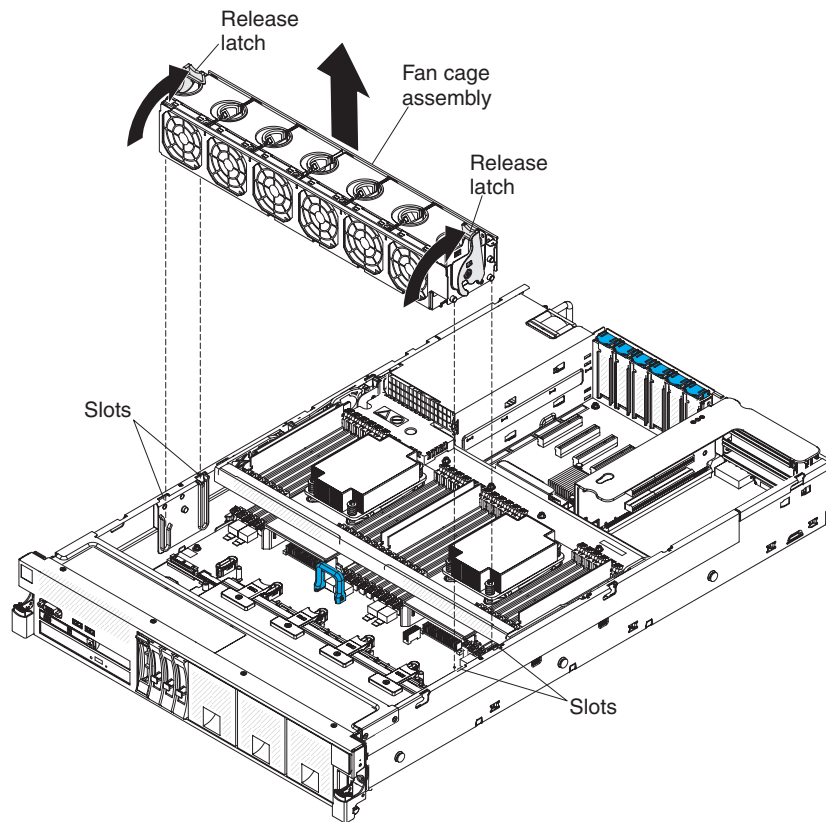


3. Insert the fan into the fan slot in the fan cage assembly and ensure that it is seated correctly and the fan release tab is in the slot (hole) on the fan cage assembly.
4. Install the cover (see "Replacing the server top cover" on page 200).
5. Slide the server into the rack.

Removing the fan cage assembly

To remove the fan cage assembly, complete the following steps:

1. Read the safety information and installation guidelines, see "Safety" on page vii and "Installation guidelines" on page 33.
2. Turn off the server (see "Turning off the server" on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. If the server is in a rack, slide the server out of the rack.
4. Remove the top cover (see "Removing the server top cover" on page 199).
5. If you are replacing the fan cage assembly, remove the fans (see "Removing a hot-swap fan assembly" on page 236).
6. Lift the fan cage assembly release latches and rotate the release latches up until the assembly disengages from the chassis; then, lift the fan cage assembly out of the server.

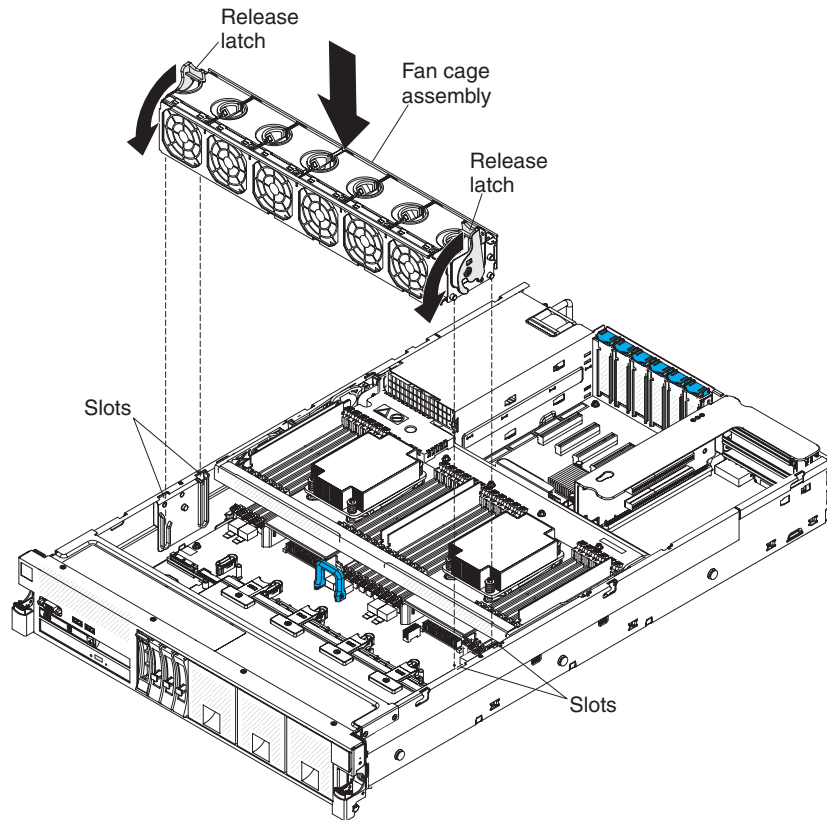


7. If you are instructed to return the fan cage assembly, follow all of the packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the fan cage assembly

To replace the fan cage assembly, complete the following steps:

1. Align the tabs on the fan cage assembly with the slots on both sides of the chassis and lower it into the server.

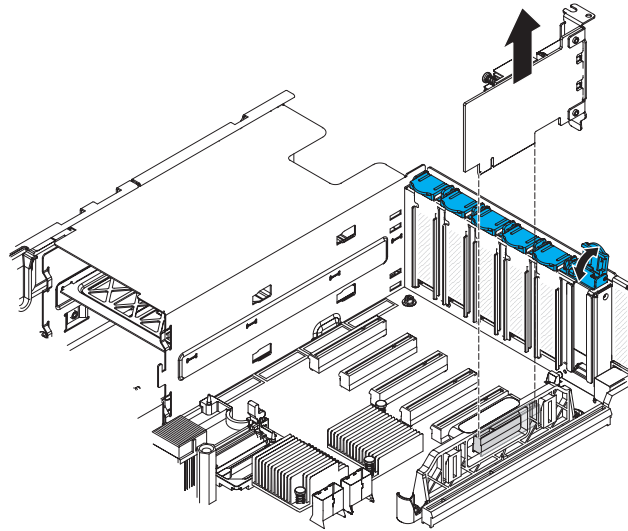


2. Rotate the fan cage assembly release latches down until the release latches are in the locked position.
3. Reinstall the cover (see “Replacing the server top cover” on page 200).
4. Slide the server into the rack.
5. Reconnect the power cord and any cables that you removed.
6. Turn on the peripheral devices and the server.

Removing the IBM Dual-port 10Gb-T (copper) Ethernet Adapter or the IBM Dual-port 10Gb SFP+ (fibre) Ethernet Adapter

To remove the IBM Dual-port 10Gb SFP+ (fibre) Ethernet Adapter or the IBM Dual-port 10Gb-T (copper) Ethernet Adapter, complete the following steps:

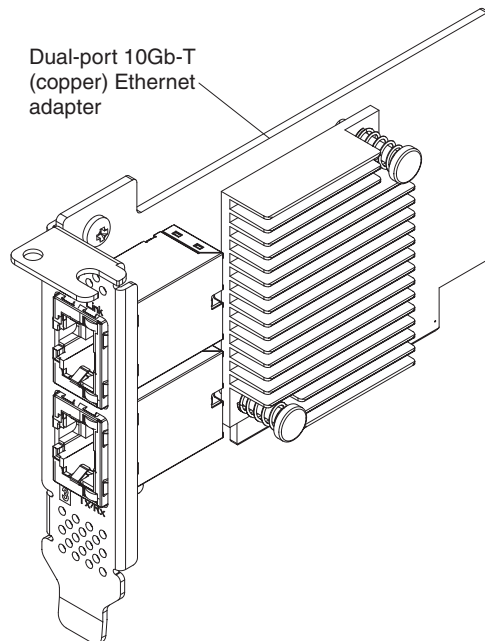
1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the top cover (see “Removing the server top cover” on page 199).
4. Open the adapter retention latch.
5. Carefully grasp the adapter and pull it out of the connector on the system board.

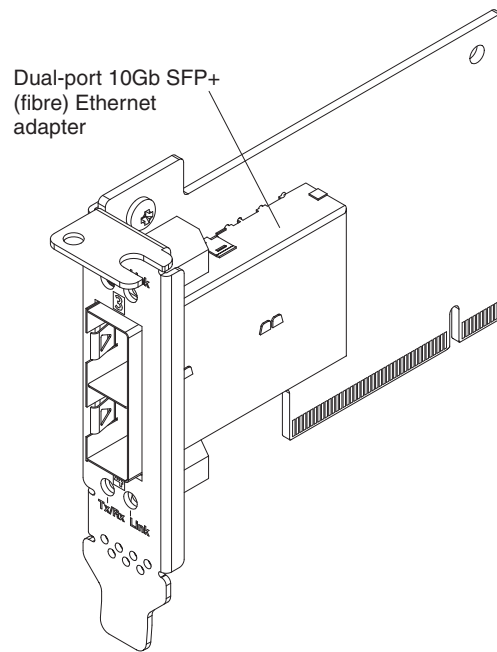


6. If you are instructed to return the adapter, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the IBM Dual port 10Gb-T (copper) Ethernet Adapter or the IBM Dual port 10Gb SFP+ (fibre) Ethernet Adapter

The following are illustrations of the IBM Dual-port 10Gb SFP+ (fibre) Ethernet Adapter and the IBM Dual-port 10Gb-T (copper) Ethernet Adapter. See “Supported adapters” on page 66 and Table 15 on page 65 for more information.



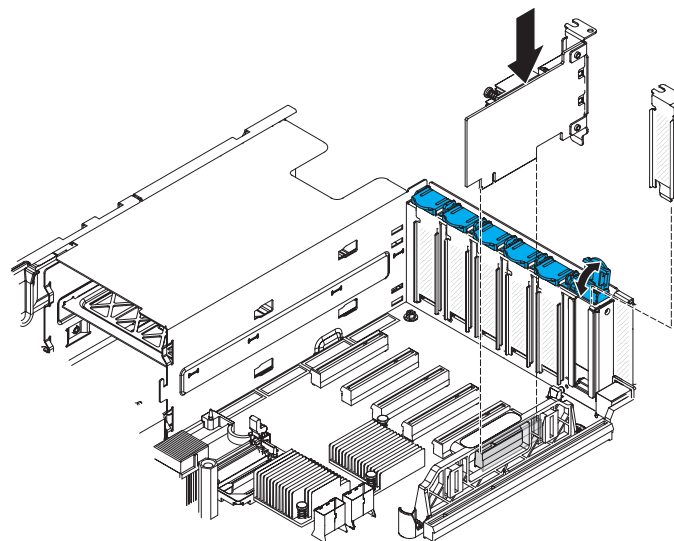


To replace a IBM Dual-port 10 Gb-T (copper) Ethernet Adapter or the IBM Dual-port 10 Gb SFP+ (fibre) Ethernet Adapter, complete the following steps:

Note: The illustration in this document might differ slightly from your hardware.

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Touch the static-protective package that contains the new adapter to any unpainted metal surface on the server. Then, remove the adapter from the package.
3. Align the edge connector on the adapter with the connector on the system board. Press the edge of the connector *firmly* into the system board connector and make sure that the adapter snaps into the connector securely.

Attention: When you install an adapter, make sure that the adapter is correctly seated on the system board connector before you turn on the server. An incorrectly seated adapter might cause damage to the system board or the adapter.



4. Close the adapter retention latch.
5. Reconnect any cables that you disconnect earlier.
6. Perform any configuration tasks that are required for the adapter.
7. Replace the cover (see “Replacing the server top cover” on page 200).
8. Slide the server into the rack.
9. Reconnect the power cord and any cables that you removed.
10. Turn on the peripheral devices and the server.

Removing a RAID battery or flash power module

If a RAID adapter battery is installed remotely in the server and you need to replace the RAID adapter battery, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the top cover (see “Removing the server top cover” on page 199).
4. Locate the battery/flash power module trays on top of the USB/video assembly (above the operator information panel).
5. Press the tray retention clip tab to the left and remove the retention clip.
6. Disconnect the battery cable or flash power module cable from the failed battery or flash power module and remove it from the tray.

If you are instructed to return the battery or flash power module, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a RAID battery or flash power module

When you install any RAID adapter that comes with batteries or flash power modules, they must be installed remotely in the server to prevent them from overheating. The batteries or flash power modules must be installed in the trays on top of the USB/video assembly (above the operator information panel). To install the batteries or flash power modules remotely in the server, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Place the new battery into the battery tray.
3. Connect the battery cable to the new battery and replace the battery retention clip to secure the batteries in the trays.
4. Install the cover.
5. Slide the server into the rack.
6. Reconnect the power cords and all external cables, and turn on the server and peripheral devices.

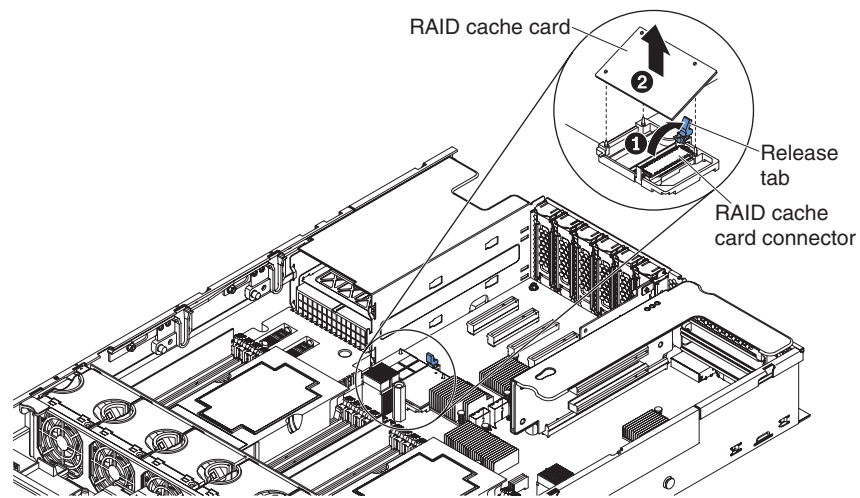
Removing a RAID cache card

Note: For additional information and notes about the adapters, see “Installing an adapter” on page 64.

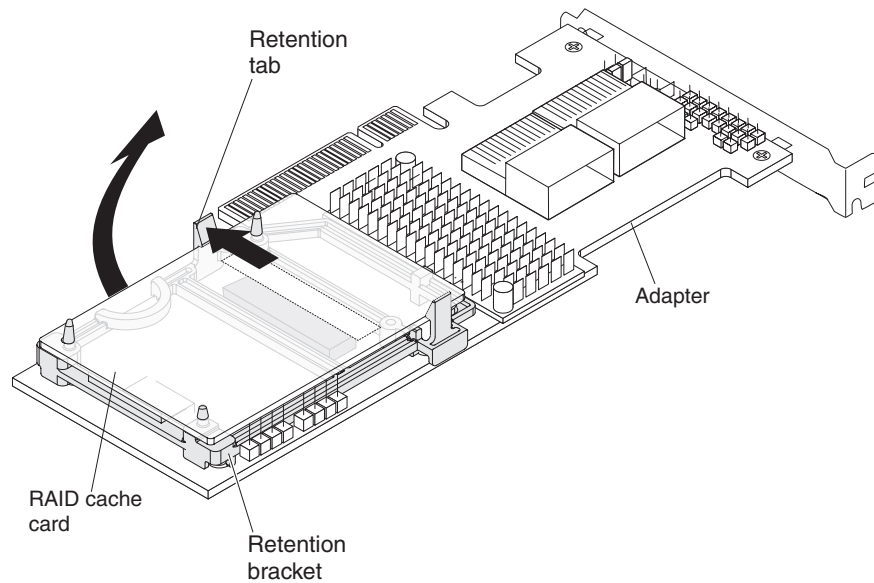
To remove a RAID cache card, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.

2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the top cover (see “Removing the server top cover” on page 199).
4. **If the cache card is installed on the system board**, complete the following steps.
 - a. Disconnect the cable from the battery or flash power module in the battery/flash power module tray located on top of the USB/video assembly near the front of the server.
 - b. Press the blue lever toward the rear of the server to the open position. The cache card will disengage from the RAID cache card connector on the system board.



- c. Disconnect the battery cable or flash power module cable from the cache card.
 - d. Press the black retention clip toward the front of the server and lift the cache card out of the server and set it aside.
 - e. Go to step 6 on page 244.
5. **If the cache card is installed on a RAID adapter**, complete the following steps:
 - a. Disconnect the cable from the battery or flash power module in the battery/flash power module tray located on top of the USB/video assembly.
 - b. Grasp the riser-card assembly at the blue touch points and pull it up until the riser-card assembly disengages from the connector on the system board.
 - c. Disconnect the cache card cable from the cache card on the RAID adapter.
 - d. Remove the adapter from the riser-card assembly (see “Removing an adapter” on page 206).
 - e. Press the black retention clip away from the cache card and lift the cache card off the adapter and set it aside.



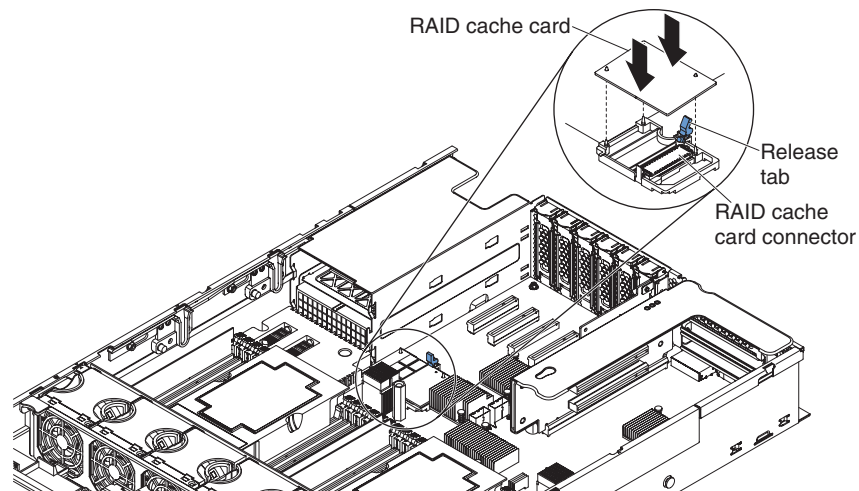
6. If you are instructed to return the cache card, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a RAID cache card

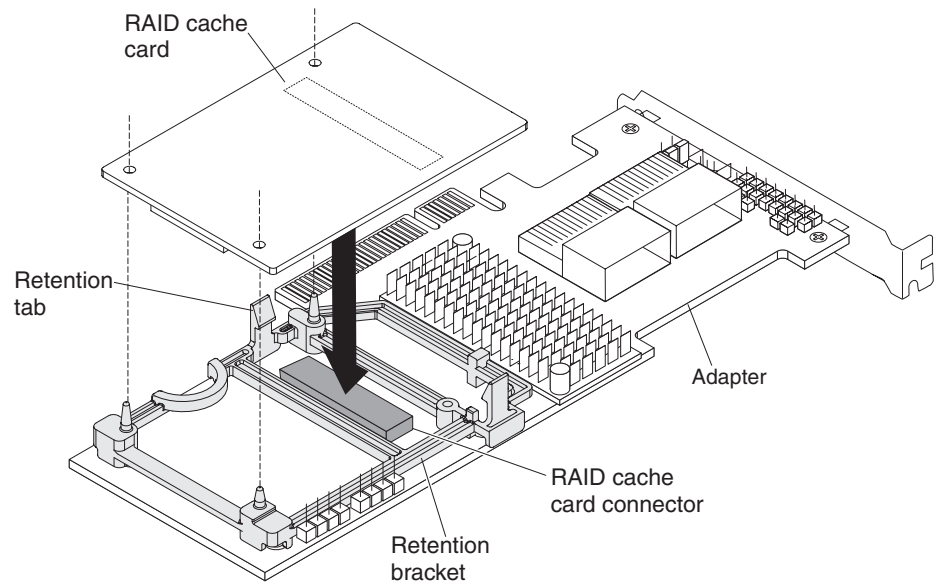
Note: For additional information and notes about installing adapters, see “Installing an adapter” on page 64.

To replace an RAID cache card, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Touch the static-protective package that contains the new RAID cache card to any unpainted surface on the outside of the server; then, grasp the card by the top edge or upper corners of the card and remove it from the package.
3. **If you are replacing a cache card that is installed on the system board,** complete the following steps.
 - a. Connect the battery cable or flash power module cable to the cache card.
 - b. Align the cache card with the RAID cache card slot on the system board and lower it onto the connector.



- c. Gently press down on the center of the cache card until it is firmly seated into the connector.
- d. Reconnect the cache card cable to the battery or flash power module in the battery/flash power module tray.
- e. Continue to step 5.
4. **If you are replacing a cache card on the RAID adapter**, complete the following steps:
 - a. Align the cache card with the RAID cache card slot on the RAID adapter and lower it onto the connector.



- b. Gently press the cache card down until it snaps in place and is securely seated.
- c. Reconnect the battery cable or flash power module cable to the cache card.
- d. Align the PCI riser-card assembly with the PCI slot connector on the system board and align slots on the PCI riser-card assembly with the hinges on the chassis; then, press down firmly until the riser-card assembly is seated correctly in the connector on the system board.
- e. Insert the adapter into the connector on the riser-card until it is firmly seated.
- f. Reconnect the battery cable or flash power module cable to the battery or flash power module in the battery/flash power module tray located on top of the USB/video assembly near the front of the server.
- g. Go to step 5.
5. Replace the cover (see “Replacing the server top cover” on page 200).
6. Slide the server in the rack.
7. Reconnect the power cord and any cables that you removed.
8. Turn on the peripheral devices and the server.

Removing the system battery

The following notes describe information that you must consider when replacing the battery:

- IBM has designed this product with your safety in mind. The lithium battery must be handled correctly to avoid possible danger. If you replace the battery, you must adhere to the following instructions.

Note: In the U. S., call 1-800-IBM-4333 for information about battery disposal.

- If you replace the original lithium battery with a heavy-metal battery or a battery with heavy-metal components, be aware of the following environmental consideration. Batteries and accumulators that contain heavy metals must not be disposed of with normal domestic waste. They will be taken back free of charge by the manufacturer, distributor, or representative, to be recycled or disposed of in a proper manner.
- To order replacement batteries, call 1-800-IBM-SERV within the United States, and 1-800-465-7999 or 1-800-465-6666 within Canada. Outside the U.S. and Canada, call your support center or business partner.

Note: After you replace the battery, you must reconfigure the server and reset the system date and time.

Statement 2



CAUTION:

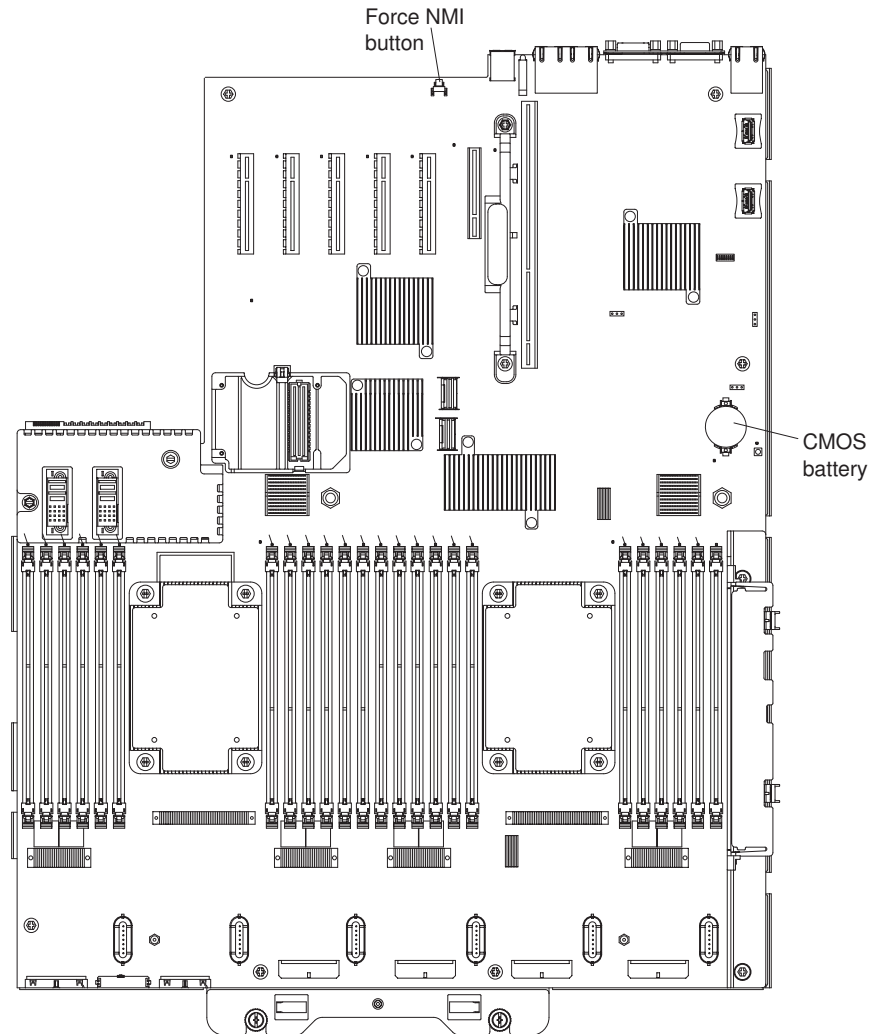
When replacing the lithium battery, use only IBM Part Number 33F8354 or an equivalent type battery recommended by the manufacturer. If your system has a module containing a lithium battery, replace it only with the same module type made by the same manufacturer. The battery contains lithium and can explode if not properly used, handled, or disposed of.

Do not:

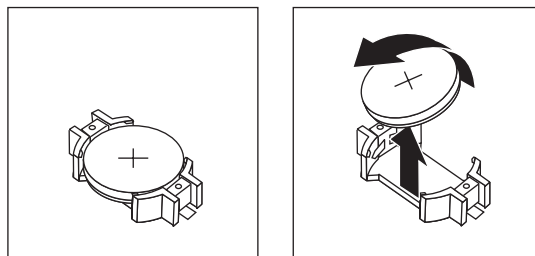
- **Throw or immerse into water**
- **Heat to more than 100°C (212°F)**
- **Repair or disassemble**

Dispose of the battery as required by local ordinances or regulations.

To remove the system-board battery, complete the following steps:



1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the top cover (see “Removing the server top cover” on page 199).
4. Disconnect the cables from the adapters in the PCI riser-card assembly and remove the PCI riser assembly from the server. (see “Removing a PCI riser-card assembly” on page 250).
5. Remove the system-board battery:
 - a. Use one finger to push the battery horizontally out of its housing.



- b. Use your thumb and index finger to lift the battery from the socket.

6. Dispose of the battery as required by local ordinances or regulations. See the *IBM Environmental Notices and User's Guide* on the IBM Documentation CD for more information.

Replacing the system battery

The following notes describe information that you must consider when replacing the system-board battery in the server.

- When replacing the system-board battery, you must replace it with a lithium battery of the same type from the same manufacturer.
- To order replacement batteries, call 1-800-426-7378 within the United States, and 1-800-465-7999 or 1-800-465-6666 within Canada. Outside the U.S. and Canada, call your IBM marketing representative or authorized reseller.
- After you replace the system-board battery, you must reconfigure the server and reset the system date and time.
- To avoid possible danger, read and follow the following safety statement.

Statement 2



CAUTION:

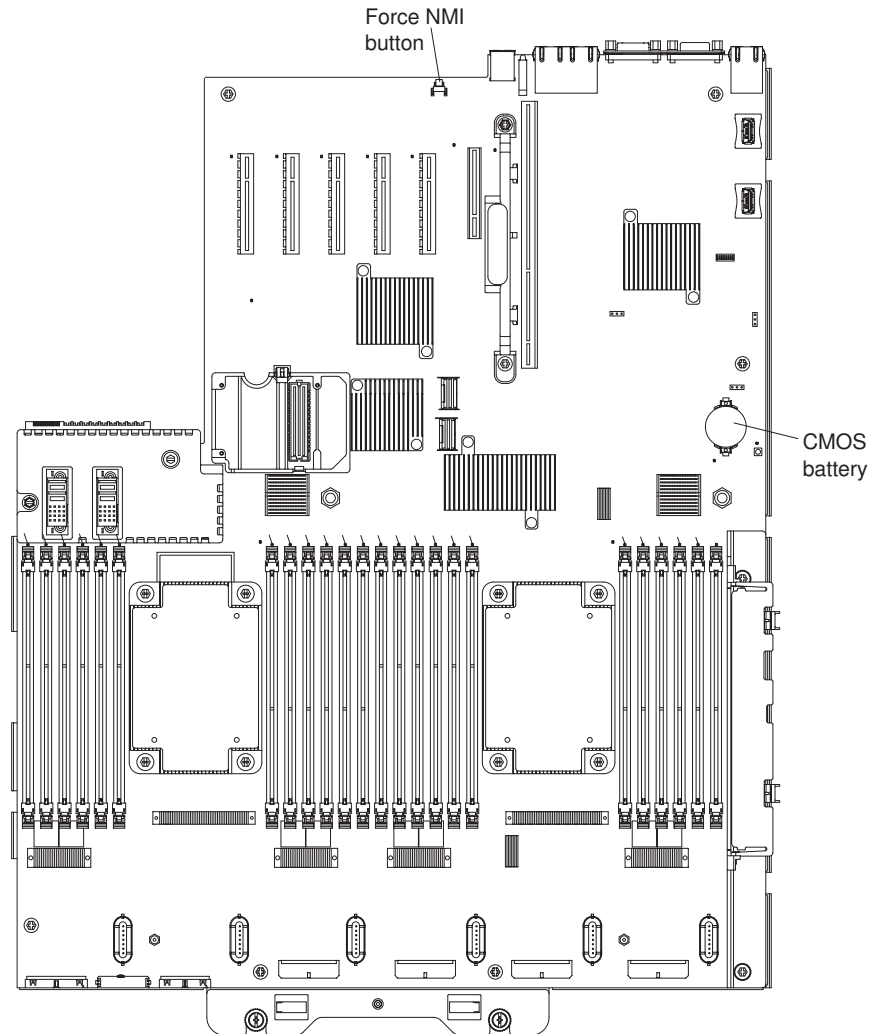
When replacing the lithium battery, use only IBM Part Number 33F8354 or an equivalent type battery recommended by the manufacturer. If your system has a module containing a lithium battery, replace it only with the same module type made by the same manufacturer. The battery contains lithium and can explode if not properly used, handled, or disposed of.

Do not:

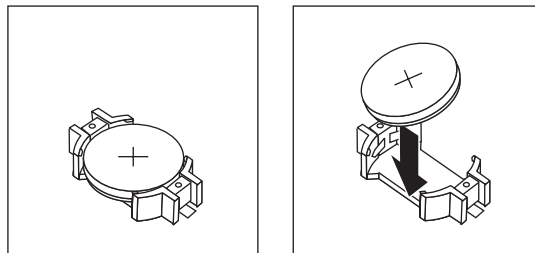
- **Throw or immerse into water**
- **Heat to more than 100°C (212°F)**
- **Repair or disassemble**

Dispose of the battery as required by local ordinances or regulations.

To install the replacement system-board battery, complete the following steps:



1. Follow any special handling and installation instructions that come with the replacement battery.
2. Insert the new battery:
 - a. Position the battery so that the positive (+) symbol is facing you.



- b. Place the battery into its socket, and press the battery toward the housing until it clicks into place. Make sure that the battery clip holds the battery securely.
3. Reinstall the PCI riser card (see “Installing a PCIe riser-card assembly” on page 63) and reconnect the cables to the adapters.
4. Install the cover (see “Replacing the server top cover” on page 200).
5. Slide the server into the rack.

6. Reconnect the external cables; then, reconnect the power cords and turn on the peripheral devices and the server.

Note: You must wait approximately 10 seconds after you connect the server to input power before the power-on button becomes active.

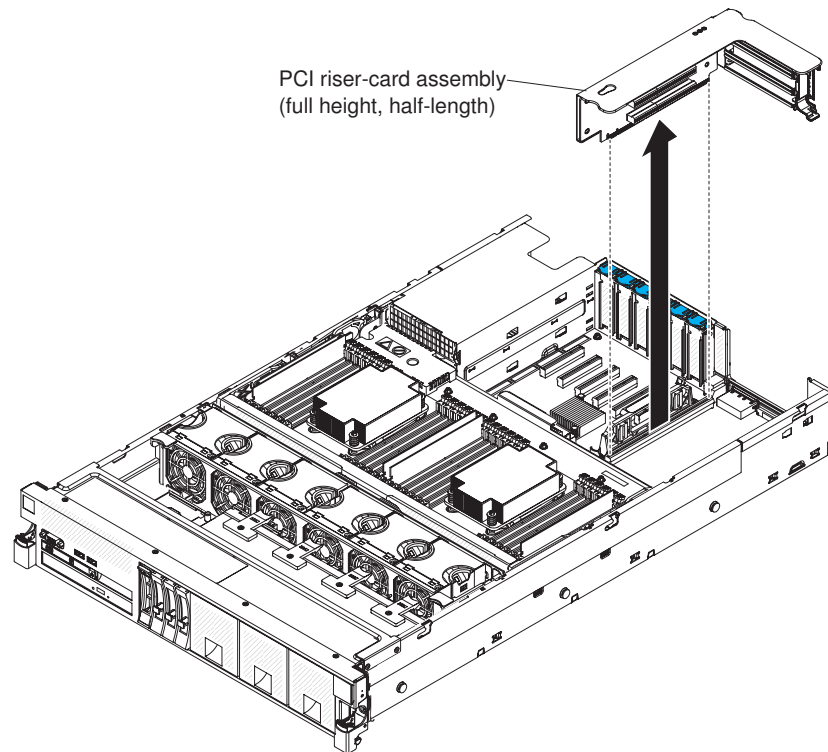
7. Start the Setup utility and reset the configuration.
 - Set the system date and time.
 - Set the power-on password.
 - Reconfigure the server.

See “Using the Setup utility” on page 125 for details.

Removing a PCI riser-card assembly

To remove a PCI riser-card assembly, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and the “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Slide the server out of the rack, if installed in a rack.
4. Remove the top cover (see “Removing the server top cover” on page 199).
5. If an adapter is installed in the PCI riser-card assembly, disconnect any cables that are connected to the adapter.
6. Grasp the front and rear of the PCI riser-card assembly at the blue touch-points and lift it out of the PCI riser-card slot on the system board.

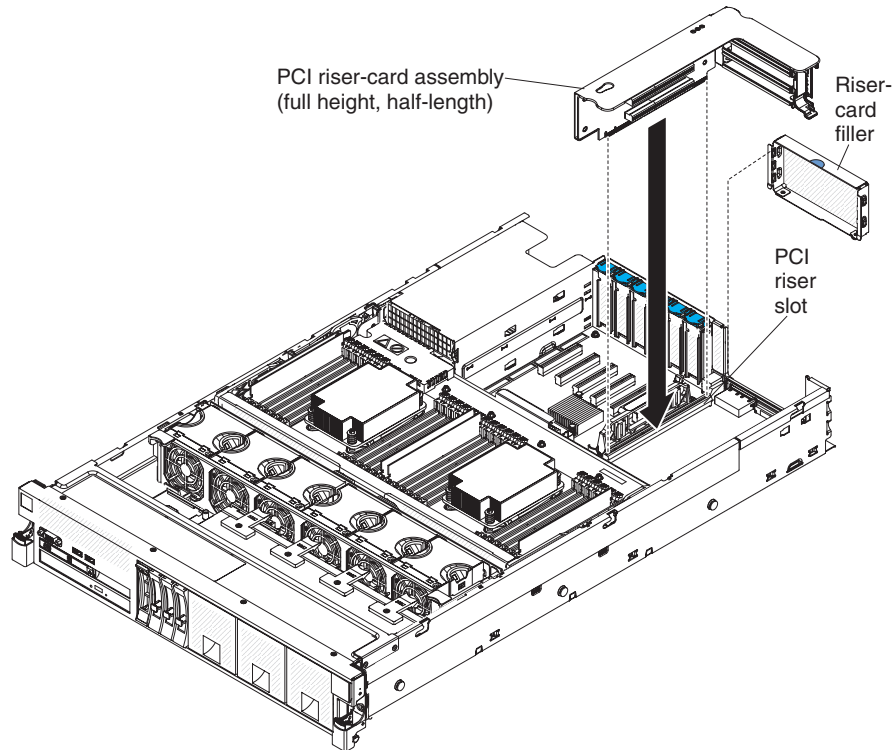


7. Remove the adapter, if necessary, from the PCI riser-card assembly.
8. Set the adapter and PCI riser-card assembly aside.

Replacing a PCI riser-card assembly

To replace a PCI riser-card assembly, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and the “Installation guidelines” on page 33.
2. Install the adapter in the new PCI riser-card assembly (see “Replacing an adapter” on page 207).
3. Align the PCI riser-card assembly with the PCI slot connector on the system board and align it with the slot on the chassis; then, lower it into the server and press down firmly until the PCI riser-card assembly is seated correctly in the connector on the system board.

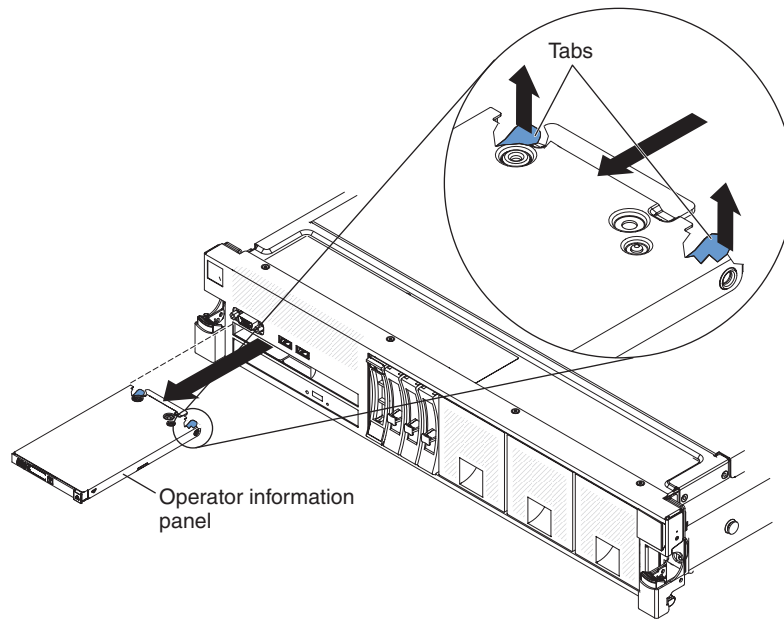


4. Reconnect the any cables that you disconnected earlier to the adapters.
5. Install the cover (see “Replacing the server top cover” on page 200).
6. Slide the server into the rack, if it was in a rack.
7. Reconnect the power cords and any cables that you removed.
8. Turn on the peripheral devices and the server.

Removing the operator information panel assembly

To remove the operator information panel, complete the following steps.

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Slide the server out of the rack.
4. Remove the server cover (see “Removing the server top cover” on page 199).
5. Disconnect the cable from the rear of the operator information panel assembly.
6. Lift the two release tabs on the rear of the operator information panel and carefully slide the assembly out of the front of the server.

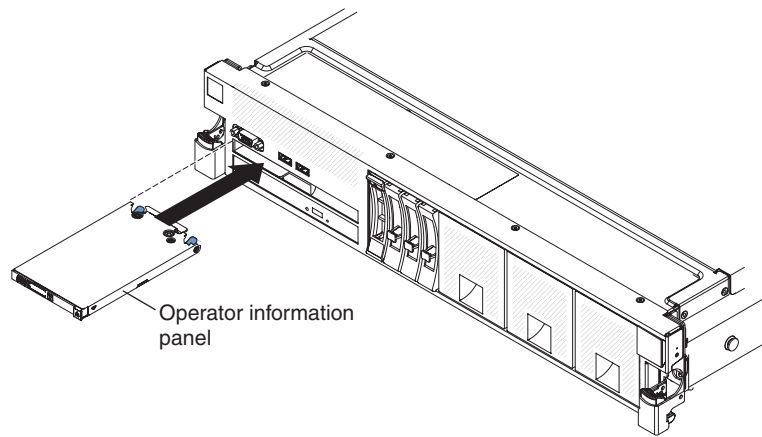


7. If you are instructed to return the operator information panel assembly, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the operator information panel assembly

To install the operator information panel, complete the following steps.

1. Read the safety information that begins on page "Safety" on page vii and "Installation guidelines" on page 33.
2. From the front of the server, align the panel with the slot and slide the operator information panel into the server until it clicks into place.



3. Reconnect the cable to the rear of the operator information panel assembly.

Note: Make sure that cable is installed correctly by using the keys on the connector and the keys on the cable. Incorrect installation of the cable can damage the operator information panel.

4. Install the cover (see “Replacing the server top cover” on page 200).
5. Slide the server into the rack.
6. Reconnect the power cords and any cables that you removed.
7. Turn on the peripheral devices and the server.

Removing and replacing Tier 2 CRUs

You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge, under the type of warranty service that is designated for your server.

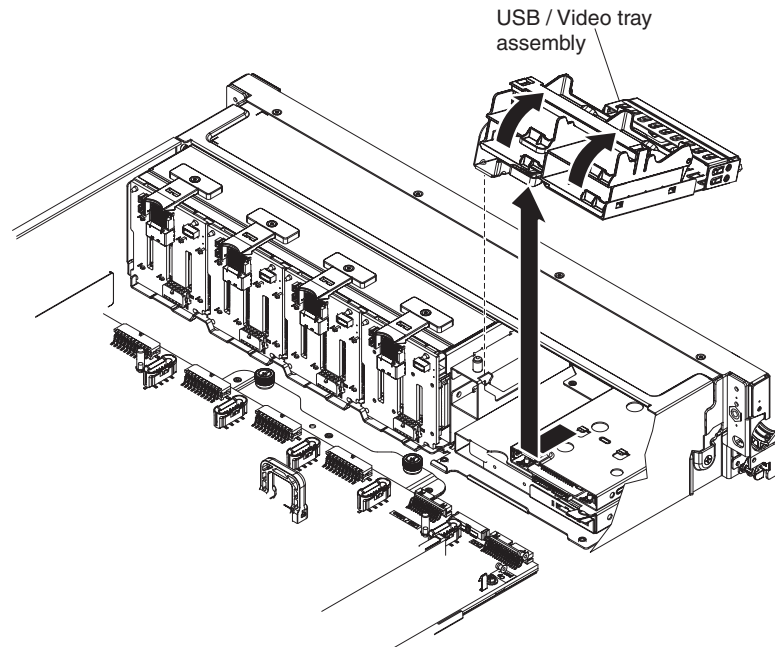
The illustrations in this document might differ slightly from your hardware.

Removing the USB/video tray assembly

To remove the USB/video tray assembly, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Slide the server out of the rack.
4. Remove the server top cover (see “Removing the server top cover” on page 199).
5. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 237).
6. Remove all RAID batteries or flash power modules from the USB/video tray assembly, if any are installed (see “Removing a RAID battery or flash power module” on page 242).

7. Disconnect the USB/video tray assembly cable from the system board.
8. Lift the tab on the rear of the USB/video tray assembly and the assembly; then, slide the assembly out (toward the rear of the server) of the server.

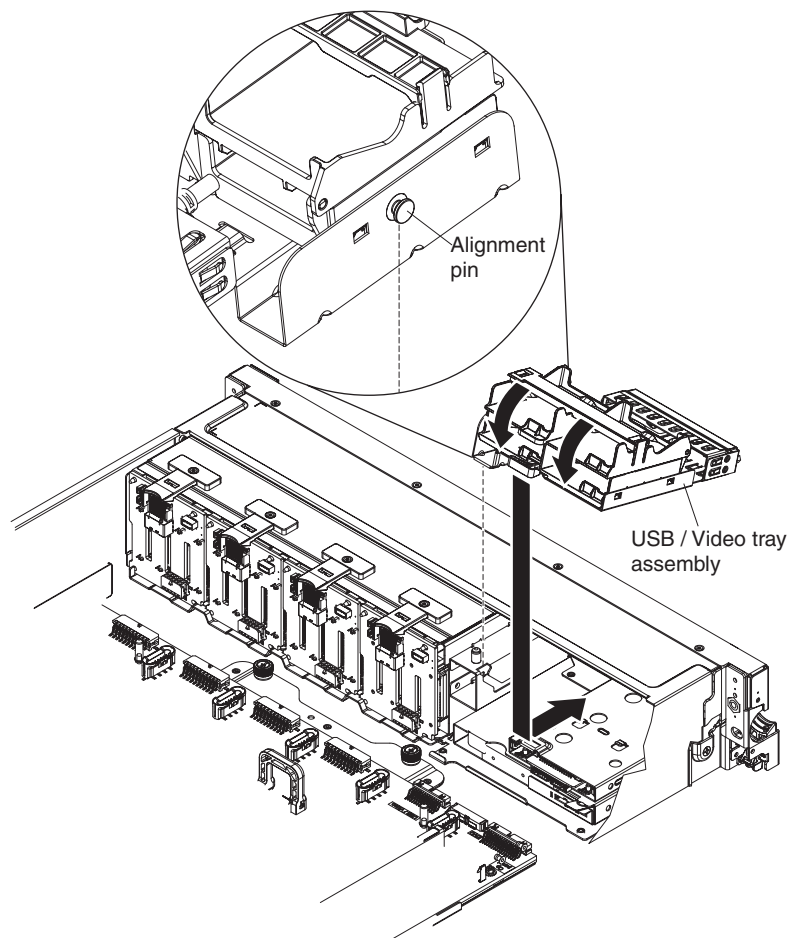


9. If you are instructed to return the USB/video tray assembly, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the USB/video tray assembly

To replace the USB/video tray assembly, complete the following steps:

1. Read the safety information that begins on page "Safety" on page vii and "Installation guidelines" on page 33.
2. From inside the server, align the USB/video tray assembly with the slot in the server and insert the pin on the side of the tray assembly into the pin hole on the side of the slot for the tray assembly; then, slide it into the slot until it snaps into place and is seated firmly.



3. Connect the USB/video cable to the system board.
4. Reinstall the RAID batteries or flash power modules, if you removed them earlier (see “Replacing a RAID battery or flash power module” on page 242).
5. Reinstall the fan cage assembly (see “Replacing the fan cage assembly” on page 238).
6. Replace the cover (see “Replacing the server top cover” on page 200).

Removing the power interposer for redundant power supply card assembly

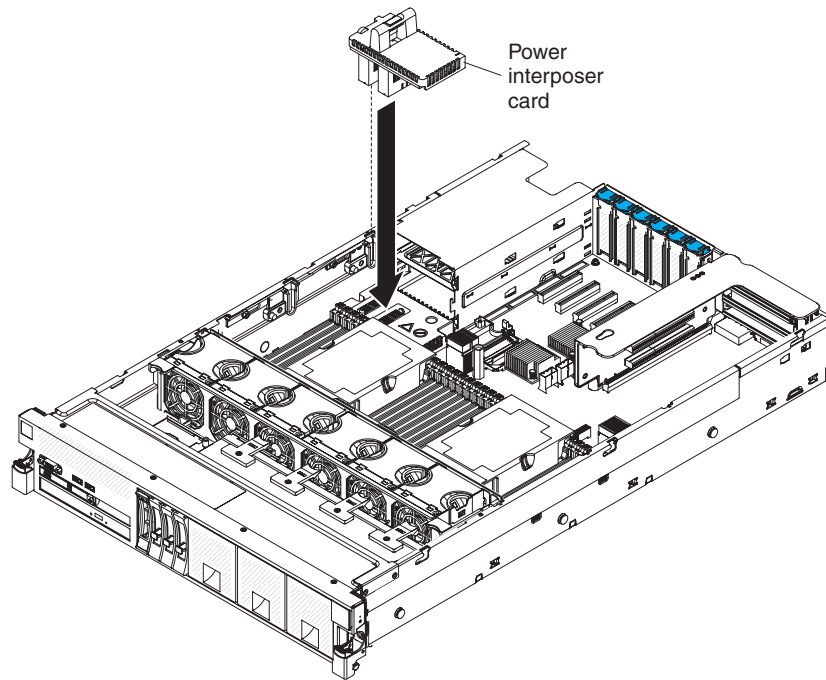
To remove the power interposer for redundant power supply card assembly, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the server cover (see “Removing the server top cover” on page 199).
4. Disconnect the power supply that is connected to the power interposer card assembly.
5. Grasp the power interposer card assembly and lift it out of the connectors on the system board.
6. If you are instructed to return the power interposer card assembly, follow all of the packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a power interposer redundant power supply card assembly

To install the power interposer for redundant power supply card assembly, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Align the connectors on the power interposer card assembly are aligned with the power interposer card connectors on the system board; then, press down on the assembly until it is firmly seated in the connectors on the system board.



3. Reinstall the power supply that you removed earlier.
4. Reinstall the cover (see “Replacing the server top cover” on page 200).
5. Slide the server into the rack.
6. Reconnect the power cords and any cables that you removed.
7. Turn on the peripheral devices and the server.

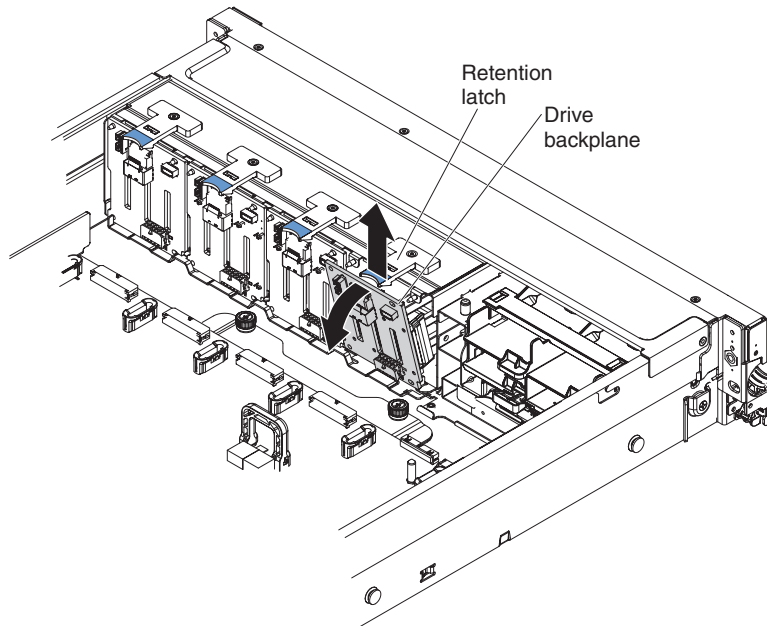
Removing the 4x2.5-inch hot-swap drive backplanes

To remove the 2.5-inch hot-swap drive backplanes, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Slide the server out of the rack.
4. Remove the top cover (see “Removing the server top cover” on page 199).
5. Pull the drives and filler panels out of the server slightly to disengage them from the drive backplane.
6. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 237).
7. Disconnect the combination power/configuration cable from the backplane. If a SAS signal cable is attached to the drive backplane, disconnect it.

Note: You can also choose to disconnect the cables after removing the backplane, if that is easier for you.

8. Lift the retention latch or latches on top of the backplane cage; then, rotate the backplane down and pull it out of the retention latch and remove it from the server.



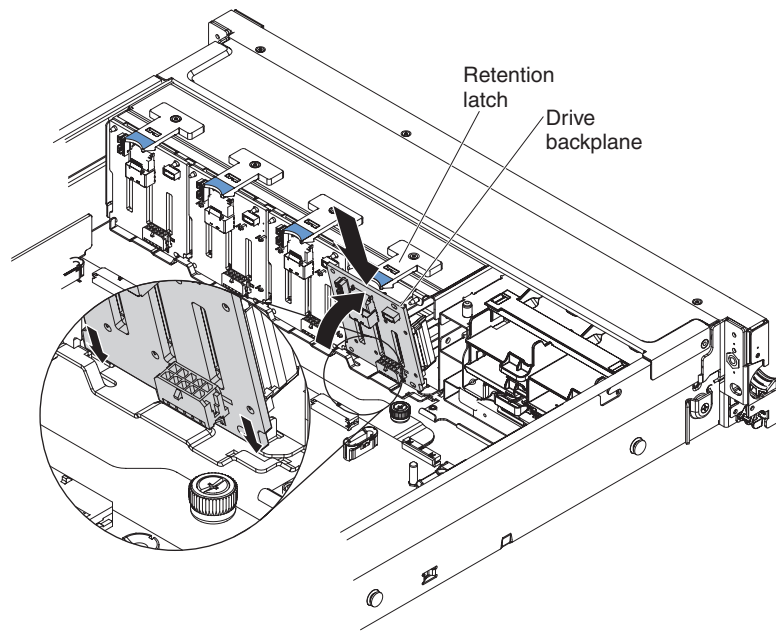
9. If you are instructed to return the drive backplane, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the 4x2.5-inch hot-swap drive backplanes

To install the replacement hot-swap 2.5-inch drive backplanes, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Align the tabs on the bottom of the drive backplane with the slots on the bottom of the backplane cage.
3. Insert the drive backplane tabs into slots on the bottom of the backplane cage and push the drive backplane forward into the retention latch on top of the backplane cage until the backplane is locked in place.

Note: You can reconnect the cables to the drive backplane before installing the backplane onto the cage or you can connect the cables after you install the backplane, if that is easier for you.

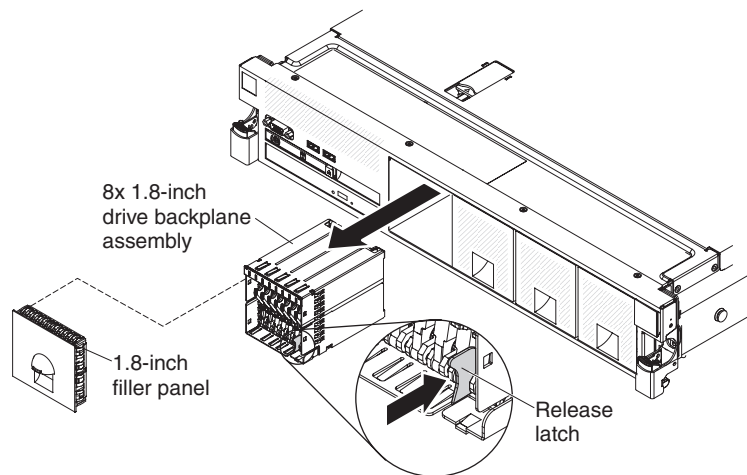


4. Reconnect the cables to the drive backplane.
5. Reinstall the fan cage assembly (see “Replacing the fan cage assembly” on page 238).
6. Reinstall the drives and filler panels.
7. Install the cover (see “Replacing the server top cover” on page 200).
8. Slide the server into the rack.
9. Reconnect the power cords and any cables that you removed.
10. Turn on the peripheral devices and the server.

Removing the 8x1.8-inch hot-swap drive backplane assembly

To remove the 8x1.8-inch hot-swap drive backplane assembly, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. If the server is installed in a rack, slide it out of the rack.
4. Remove the top cover (see “Removing the server top cover” on page 199).
5. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 237).
6. Remove the drive filler panel.
7. Remove the drives from the drive backplane assembly (see “Removing 2.5-inch and 1.8-inch hot-swap drives” on page 209) and install them in the new backplane assembly.
8. Disconnect the combination power/configuration cable from the backplane assembly. If SAS signal cables are attached to the drive backplane, disconnect them.
9. Lift up the spring release latch slightly while pushing the assembly from the back and slide the backplane assembly out the front of the server.

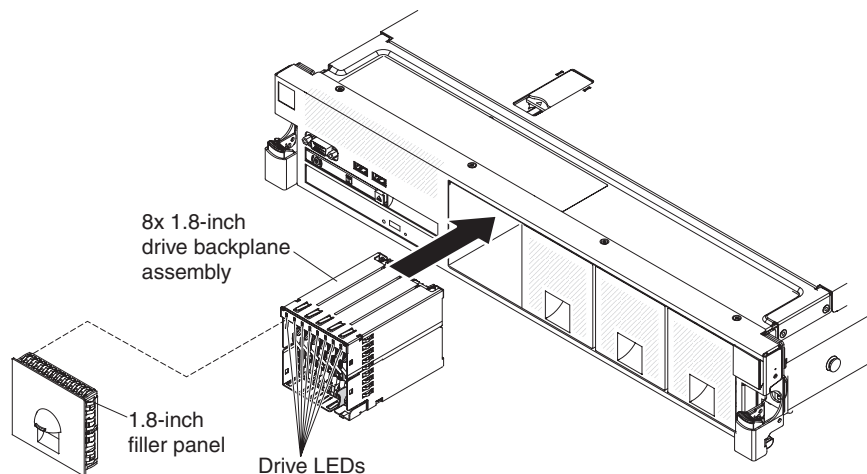


10. If you are instructed to return the drive backplane, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the 8x1.8-inch hot-swap drive backplane assembly

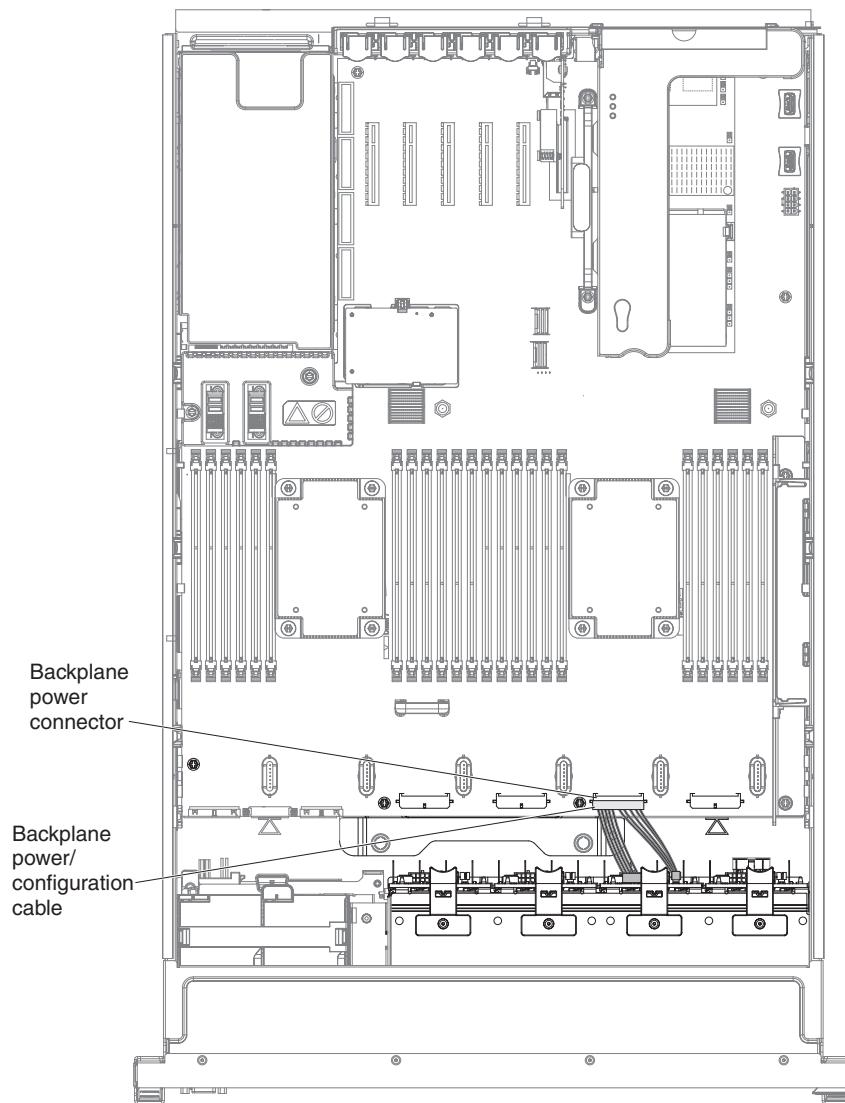
To replace the 8x1.8-inch hot-swap drive backplane assembly, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Align the drive backplane assembly with the drive-bay slots in which you want to install the assembly.



3. Slide the drive backplane assembly into the slot until it clicks into place.
4. Connect the combination power/configuration cable to the connectors on the backplane assembly; then connect the signal cables to the backplane assembly (as shown in the illustration).

Note: You can reconnect the cables to the drive backplane before installing the backplane onto the cage or you can connect the cables after you install the backplane, if that is easier for you.



5. Reinstall the drives that you removed from the old assembly into the new drive backplane assembly (see “Replacing 2.5-inch and 1.8-inch hot-swap drives” on page 210).
6. Install the drive filler panel.
7. Reinstall the fan cage assembly (see “Replacing the fan cage assembly” on page 238).
8. Install the cover (see “Replacing the server top cover” on page 200).
9. Slide the server into the rack.
10. Reconnect the power cords and any cables that you removed.
11. Turn on the peripheral devices and the server.

Removing the 8x2.5-inch drive backplane with controller expander

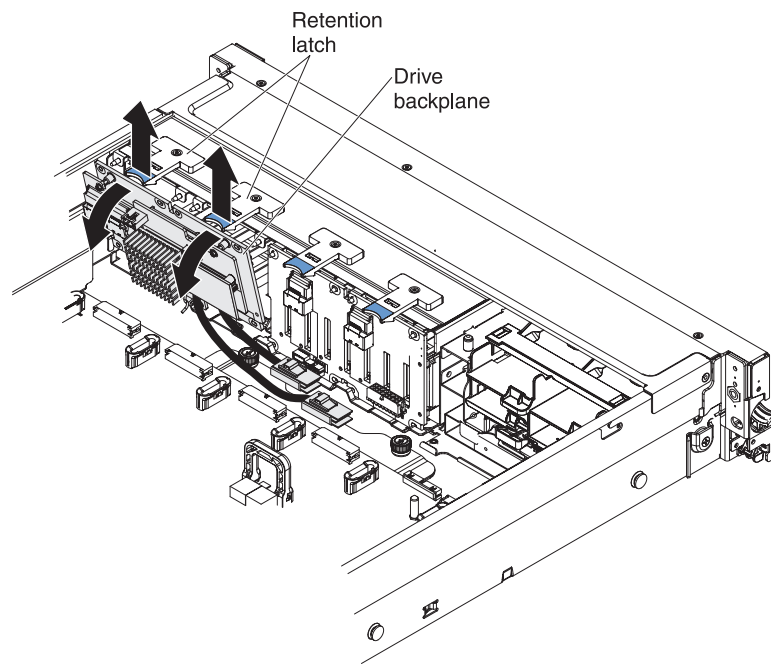
To remove 8x2.5-inch drive backplane with controller expander, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.

2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Slide the server out of the rack.
4. Remove the top cover (see “Removing the server top cover” on page 199).
5. Pull the drives and filler panels out of the server slightly to disengage them from the drive backplane.
6. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 237).
7. Disconnect the combination power/configuration cable from the backplane. If a SAS signal cable is attached to the drive backplane, disconnect it.

Note: You can also choose to disconnect the cables after removing the backplane, if that is easier for you.

8. Disconnect the long SAS signal cables from the backplane.
9. Disconnect the short interposer cables from the backplane (which attaches this backplane to the other backplane in this configuration).
10. Lift the retention latch or latches on top of the backplane cage; then, rotate the backplane down and pull it out of the retention latch and remove it from the server.



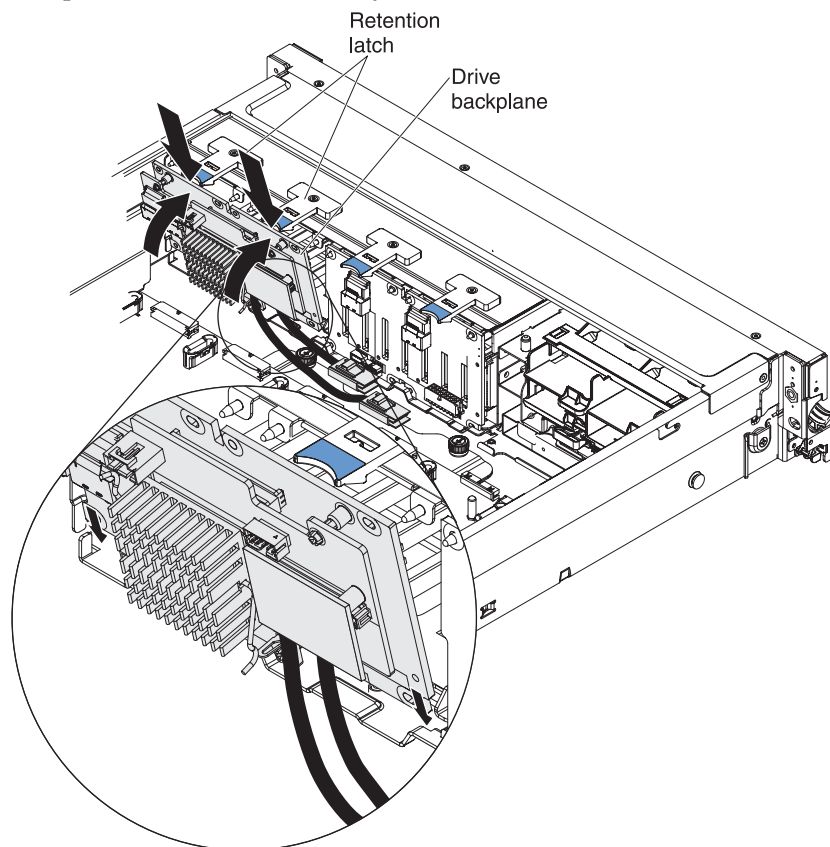
11. Remove the two screws from the card with the short interposer cables attached to it from the old backplane and attached them to the new backplane using the two screws.
12. If you are instructed to return the drive backplane, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the 8x2.5-inch drive backplane with controller expander

To install the 8x2.5-inch drive backplane with controller expander, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Touch the static-protective package that contains the drive backplane to any unpainted surface on the outside of the server; then, grasp the backplane and remove it from the package.
3. Make sure that you have attached the card with the short interposer cables from the old backplane to this replacement backplane.
4. Align the tabs on the bottom of the drive backplane with the slots on the bottom of the backplane cage.
5. Insert the drive backplane tabs into slots on the bottom of the backplane cage and push the drive backplane forward into the retention latch (on top of the backplane cage) until the backplane is locked in place.

Note: You can reconnect the cables to the drive backplane before installing the backplane onto the cage or you can connect the cables after you install the backplane, if that is easier for you.



6. Reconnect the interposer cables to the other backplane.
7. Reconnect the long SAS signal cables to the backplane and the system board that you disconnected them from earlier.
8. Reinstall the fan cage assembly (see “Replacing the fan cage assembly” on page 238).
9. Reinstall the drives and filler panels.
10. Install the cover (see “Replacing the server top cover” on page 200).
11. Slide the server in the rack.
12. Reconnect the power cord and any cables that you removed.
13. Turn on the peripheral devices and the server.

Removing and replacing FRUs

FRUs must be replaced or installed only by trained service technicians.

The illustrations in this document might differ slightly from the hardware.

Removing a microprocessor and heat sink

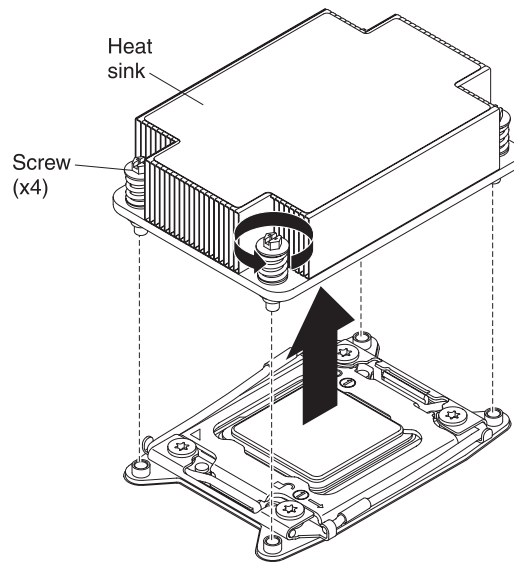
Attention:

- Be extremely careful, the microprocessor socket contacts are very fragile.
- Do not allow the thermal grease on the microprocessor and heat sink to come in contact with anything. Contact with any surface can compromise the thermal grease and the microprocessor socket.
- Do not touch the microprocessor contacts. Contaminants on the microprocessor contacts, such as oil from your skin, can cause connection failures between the contacts and the socket.
- Use the microprocessor installation tool that came with the new microprocessor to remove and install the microprocessor.

To remove a microprocessor and heat sink, complete the following steps:

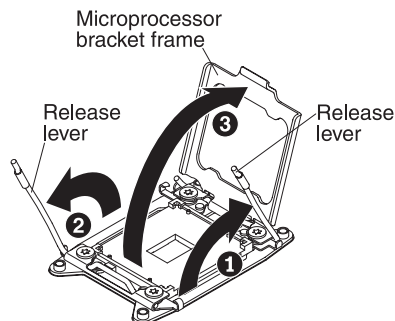
Note: This procedure for removing a microprocessor and heat sink also apply when removing a microprocessor and heat sink from the microprocessor and memory expansion tray.

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. Remove the server cover (see “Removing the server top cover” on page 199).
4. Disconnect any cables that impede access to the heat sink and microprocessor.
5. If you are replacing a microprocessor on the system board, remove the microprocessor and memory expansion tray (see “Removing the microprocessor and memory expansion tray assembly” on page 269).
6. Remove the DIMM air baffle, if one is installed (see “Removing the DIMM air baffle” on page 204).
7. Remove the microprocessor air baffle, if one is installed (see “Removing the microprocessor air baffle” on page 202).
8. Remove the heat sinks:
 - a. Use a screwdriver to loosen the captive screw on one side of the heat sink to break the seal with the microprocessor.
 - b. Loosen all the captive screws on the heat sink, rotating each screw one full turn until each screw is loose.



- c. Gently lift the heat sink from the microprocessor. **Attention:** Do not use any tools or sharp objects to lift the release levers on the microprocessor socket. Doing so might result in permanent damage to the system board.
9. After removal, place the heat sink on its side on a clean, flat surface.
10. Open the microprocessor socket release levers and bracket frame.
 - a. Locate the two release levers on the microprocessor socket.
 - b. Press the release lever on the right down and inward toward the socket and lift it up to the fully open position; then, press the release lever on the left down and inward toward the socket and it opens up to the fully open position.
 - c. Open the microprocessor bracket frame by lifting up on the bracket frame tab.

Attention: Do not touch the contacts on the microprocessor and the microprocessor socket.

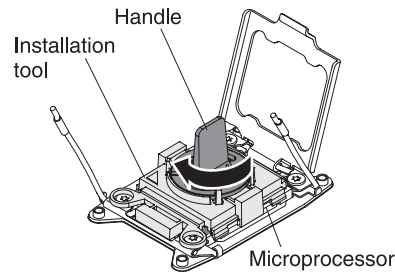


11. Locate the microprocessor installation tools that comes with the new microprocessor kit. Use the empty tool to remove the failed microprocessor.

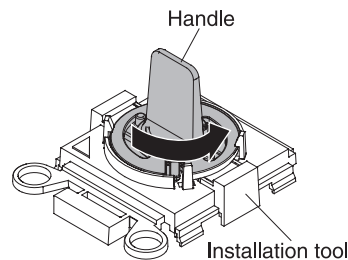
Note: The microprocessor FRU comes with two microprocessor installation tools: one tool is empty and one tool comes with a microprocessor and a cover on the bottom of the tool.

12. Remove the microprocessor from the socket:
 - a. Twist the handle on the microprocessor installation tool counterclockwise so that it is in the open position.

- b. Align the holes on the installation tool with the screws on the microprocessor bracket, then lower the microprocessor installation tool down over the microprocessor. The installation tool rests flush on the socket only if it is aligned correctly.



- c. Twist the handle on the installation tool clockwise and lift the microprocessor out of the socket.
13. Place the microprocessor on a static-protective surface. Remove the microprocessor from the installation tool by twisting the handle counterclockwise.



14. If you are instructed to return the microprocessor, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you. Do not return the microprocessor installation tool.

Replacing a microprocessor and heat sink

To replace an additional microprocessor and heat sink, complete the following steps:

Attention: When you handle static-sensitive devices, take precautions to avoid damage from static electricity. For details about handling these devices, see “Handling static-sensitive devices” on page 35.

Note:

- This procedure for replacing a microprocessor and heat sink also apply when replacing a microprocessor and heat sink on the microprocessor and memory expansion tray.
- See “Installing an additional microprocessor and heat sink” on page 85 for notes and other information that you must consider when you install a microprocessor.
- Use the microprocessor installation tool that came with the new microprocessor kit to remove the microprocessor from the server.
- Be extremely careful when handling the microprocessor, the microprocessor socket contacts are very fragile.
- The server supports up to four Intel Xeon dual-core or quad-core microprocessors (two on the base system board and two on the optional

microprocessor and memory expansion tray). See <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/> for a list of supported microprocessors.

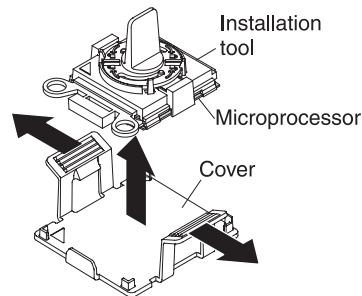
1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.

2. Install the microprocessor:

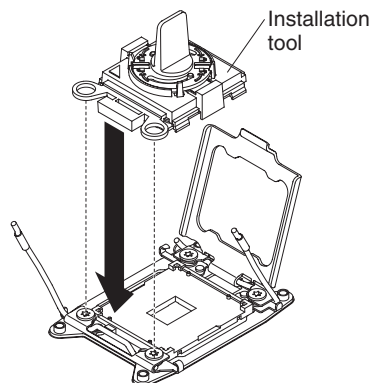
- a. Remove the plastic clamshell packaging that contains the new microprocessor kit.
- b. Locate and use the microprocessor installation tool that comes with a microprocessor and a cover on the bottom of the tool.

Attention:

- The microprocessor FRU comes with two microprocessor tools: one tool is empty and one tool comes with a microprocessor and a cover on the bottom of the tool.
 - Do not touch the microprocessor socket contacts. Contaminants on the microprocessor contacts, such as oil from your skin, can cause connection failures between the contacts and the socket.
 - Handle the microprocessor carefully. Dropping the microprocessor during installation or removal can damage the contacts.
 - Do not use excessive force when you press the microprocessor into the socket.
 - Make sure that the microprocessor is oriented and aligned and positioned in the socket before you try to close the lever.
- c. Release the sides of the microprocessor protective cover on the bottom of the microprocessor and carefully remove the cover from the installation tool. The microprocessor is preinstalled on the installation tool.



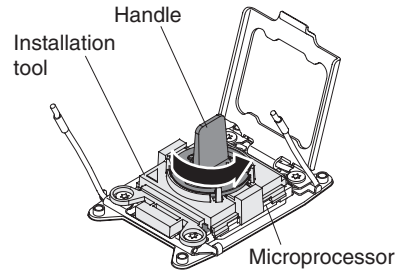
- d. Carefully align the microprocessor installation tool over the microprocessor socket. The microprocessor is keyed to ensure that the microprocessor is installed correctly.



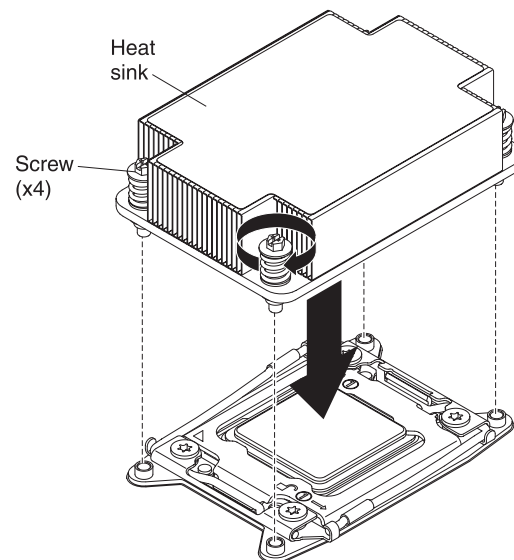
- e. Twist the handle on the microprocessor tool counterclockwise to insert the microprocessor into the socket. The microprocessor rests flush on the socket only if it is properly installed.

Note:

- Do not press the microprocessor into the socket.
- Make sure that the microprocessor is oriented and aligned correctly in the socket before you close the microprocessor bracket frame.



- f. Remove the microprocessor installation tool.
 - g. Close the microprocessor bracket frame.
 - h. Carefully close the microprocessor release levers to the closed position to secure the microprocessor in the socket. Make sure that you close the release lever on the left; then, close the release lever on the right.
3. Reinstall the heat sink:
- a. Use an alcohol wipe to remove the thermal grease from bottom of the heat sink (see “Replaceable server components” on page 189 for the alcohol wipes part number).
 - b. Apply new thermal grease to the top of the microprocessor (see “Thermal grease” on page 268 for instructions on how to apply thermal grease to the top of the microprocessor).
- Attention:** Do not touch the thermal grease. Touching the thermal grease will contaminate it.
- c. Align the heat sink on the top of the microprocessor.
 - d. Lower the heat sink and press down firmly on the heat sink.



- e. Align the captive screws on the heat sink with the holes on the heat-sink retention module.

- f. Press down on the center of the heat sink, then press firmly on the captive screws and tighten them, alternating between the screws in a figure-8 pattern as illustrated on the heat sink label until they are tightened. You can cause damage to the microprocessor if you tighten the screws on one side first, rather than rotating. Rotate each screw one full rotation at a time. Repeat this process until the screws are tightened.
4. If you removed the microprocessor air baffle, reinstall it (see “Replacing the microprocessor air baffle” on page 203).

Note: A microprocessor air baffle must be installed whenever the DIMM connectors closest to the microprocessor (on the left and the right) are empty. For example, when DIMM connectors 6 and 7 are empty on the system board, the microprocessor air baffle must be installed on microprocessor 1. This is applicable for all microprocessors.

5. Reinstall the microprocessor and memory expansion tray, if one was removed (see “Replacing the microprocessor and memory expansion tray assembly” on page 270).
6. Reinstall the DIMM air baffle, if one was removed (see “Replacing the DIMM air baffle” on page 205).
7. Reconnect any cables that you disconnected from the adapters or system board.
8. Reinstall the server cover (see “Replacing the server top cover” on page 200).
9. Slide the server into the rack..
10. Reconnect the power cords and any cables that you removed.
11. Turn on the peripheral devices and the server.

Thermal grease:

The thermal grease must be replaced whenever the heat sink has been removed from the top of the microprocessor and is going to be reused or when debris is found in the grease.

When you are installing the heat sink on the same microprocessor that is was removed from, make sure that the following requirements are met:

- The thermal grease on the heat sink and microprocessor is not contaminated.
- Additional thermal grease is not added to the existing thermal grease on the heat sink and microprocessor.

Note:

- Read the Safety information on page “Safety” on page vii.
- Read the “Installation guidelines” on page 33.
- Read “Handling static-sensitive devices” on page 35.

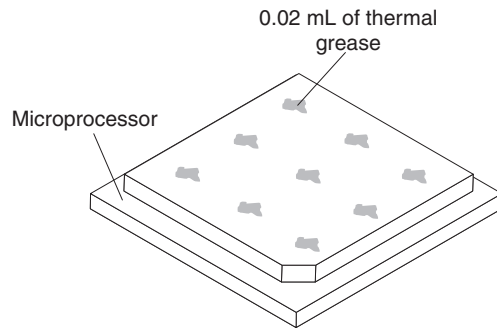
To replace damaged or contaminated thermal grease on the microprocessor and heat sink, complete the following steps:

1. Place the heat sink on a clean work surface.
2. Remove the cleaning pad from its package and unfold it completely.
3. Use the cleaning pad to wipe the thermal grease from the bottom of the heat sink.

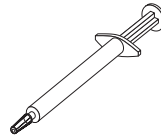
Note: Make sure that all of the thermal grease is removed.

4. Use a clean area of the cleaning pad to wipe the thermal grease from the microprocessor; then, dispose of the cleaning pad after all of the thermal grease

is removed.



5. Use the thermal-grease syringe to place 9 uniformly spaced dots of 0.02 mL each on the top of the microprocessor. The outermost dots must be within approximately 5 mm of the edge of the microprocessor; this is to ensure uniform distribution of the grease.



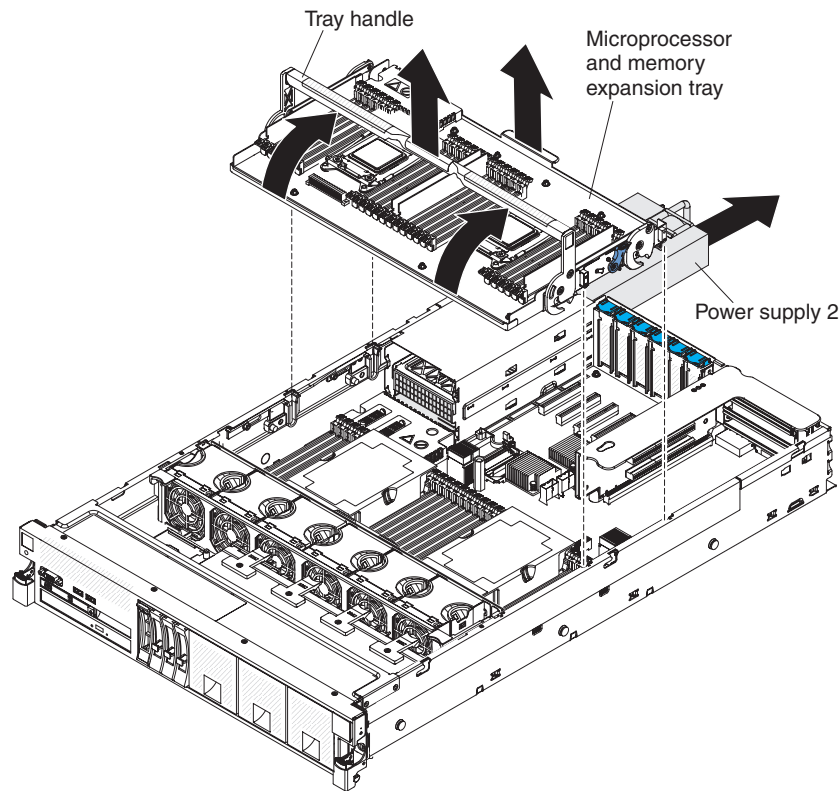
Note: If the grease is properly applied, approximately half of the grease will remain in the syringe.

6. Install the heat sink onto the microprocessor as described in “Replacing a microprocessor and heat sink” on page 265.

Removing the microprocessor and memory expansion tray assembly

To remove the microprocessor and memory expansion tray, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. If the server has been installed in a rack, slide the server out from the rack enclosure.
4. Remove the top cover (see “Removing the server top cover” on page 199).
5. If power supply 2 is installed, slide it out of the power supply bay slightly.
6. Remove the DIMMs (see “Removing a memory module” on page 216).
7. Remove the microprocessor air baffles (“Removing the microprocessor air baffle” on page 202).
8. Remove the heat sinks (see “Removing a microprocessor and heat sink” on page 263 for information on how to remove the heat sinks).
9. Grasp the microprocessor and memory expansion tray front handle by the blue touch points and rotate it all the way up (this disengages the tray from the connectors on the system board).



10. Grasp both handles (front and rear) and lift the tray assembly from the server and set it on a flat surface to avoid damaging the connector pins on the bottom of the tray.
11. Remove the microprocessors (see “Removing a microprocessor and heat sink” on page 263 for instructions on how to remove a microprocessor).

Note: When you remove the microprocessors from the old tray, install the microprocessors directly from the old tray to the new tray with the microprocessor installation tool.

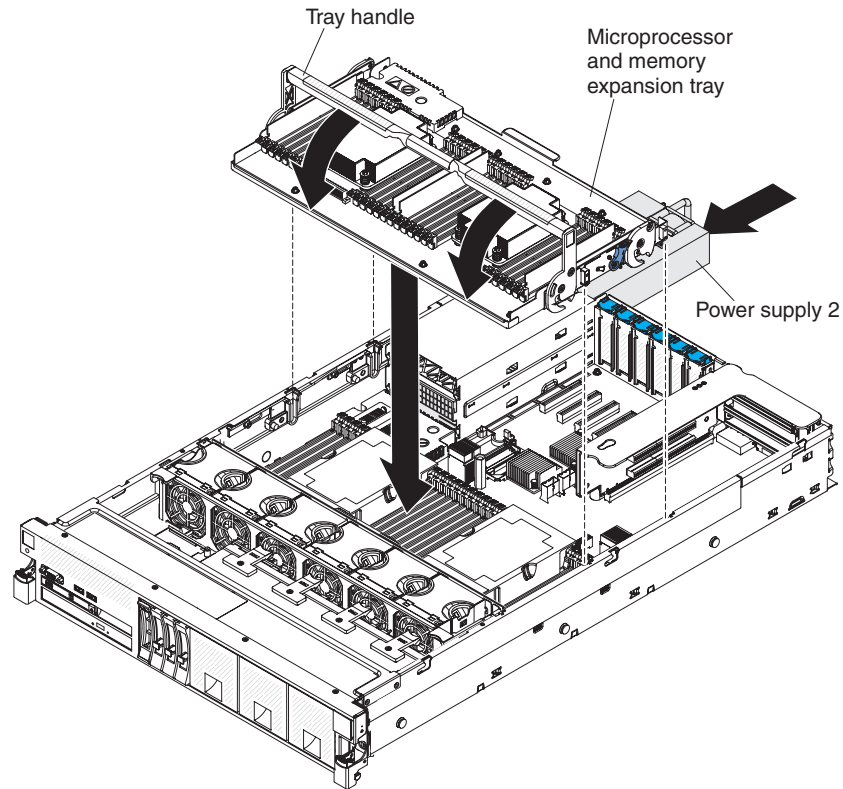
12. If you are instructed to return the microprocessor and memory expansion tray, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the microprocessor and memory expansion tray assembly

To install the microprocessor and memory expansion tray, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Grasp the tray by both handles, align the tabs on the sides of the microprocessor and memory expansion tray with the slots on the chassis wall, and lower the tray into the server.

Note: Before you install the new tray, make sure that there is no packaging material underneath tray.



3. Reinstall the DIMMs and heat sinks (see “Replacing a memory module” on page 217 and “Replacing a microprocessor and heat sink” on page 265).
4. Reinstall the microprocessor air baffles, if you removed them earlier.
5. Rotate the tray handle down until the tray is seated firmly and the handle is locked in place.
6. Slide power supply 2 back into the server.
7. Reinstall the cover (see “Replacing the server top cover” on page 200).
8. Slide the server into the rack.
9. Reconnect the power cords and any cables that you removed.
10. Turn on the peripheral devices and the server.

Removing a 750-watt -48 volt to -60 volt dc power supply

When you remove a 750-watt -48 V to -60 V dc power supply, observe the following precautions.

Statement 8



CAUTION:
Never remove the cover on a power supply or any part that has the following label attached.



Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

Statement 31:



DANGER

Electrical current from power, telephone, and communication cables is hazardous.

To avoid a shock hazard:

- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- Connect all power cords to a properly wired and grounded power source.
- Connect to properly wired power sources any equipment that will be attached to this product.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached ac power cords, dc power sources, network connections, telecommunications systems, and serial cables before you open the device covers, unless you are instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following table when you install, move, or open covers on this product or attached devices.

To Connect:

1. Turn OFF all power sources and equipment that is to be attached to this product.
2. Attach signal cables to the product.
3. Attach power cords to the product.
 - For ac systems, use appliance inlets.
 - For dc systems, ensure correct polarity of -48 V dc connections: RTN is + and -48 V dc is -. Earth ground should use a two-hole lug for safety.
4. Attach signal cables to other devices.
5. Connect power cords to their sources.
6. Turn ON all the power sources.

To Disconnect:

1. Turn OFF all power sources and equipment that is to be attached to this product.
 - For ac systems, remove all power cords from the chassis power receptacles for interrupt power at the ac power distribution unit.
 - For dc systems, disconnect dc power sources at the breaker panel or by turning off the power source. Then, remove the dc cables.
2. Remove the signal cables from the connectors.
3. Remove all cables from the devices.

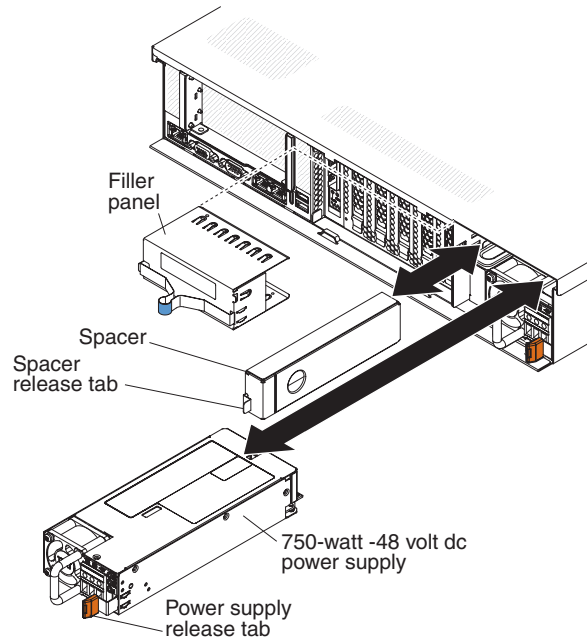
To remove a 750-watt -48 V to -60 V dc power supply, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and remove the peripheral devices cables, excluding the power supply cable. Disconnect all external cables from the server.

Attention: When you handle static-sensitive devices, take precautions to avoid damage from static electricity. For details about handling these devices, see “Handling static-sensitive devices” on page 35.

3. Turn off the circuit breaker(s) for the power supplies.

4. If the server is in a rack, at the back of the server, pull back the cable management arm to gain access to the rear of the server and the power supply.
5. Press and hold the orange release tab to the left. Grasp the power supply handle and pull the power supply out of the server.



6. Detach the dc power cable from the power supply.
7. If you are not installing a new power supply, reinstall the power supply filler in the bay.
8. Facing the rear of the server, pull the spacer release tab on the power supply spacer to the right, use your finger to grasp the hole on the side of the spacer, and slide the power supply spacer out of the server.

Note: You only need to remove the spacer if you are removing all of the 750-watt -48 V to -60 V dc power supplies or 900-watt power supplies from the server and installing 1400-watt power supplies.

9. Set the power supply spacer aside.
10. If you are instructed to return the power supply, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing a 750-watt -48 volt to -60 volt dc power supply

The following notes provide information that you must consider when you install a 750-watt -48 V to -60 V dc power supply. To confirm that the server supports the power supply that you are installing, see <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/>.

Attention:

- Only trained service technicians, other than IBM service technicians, are authorized to install and remove the 750-watt -48 V to -60 V dc power supply, and make connections to or disconnections from the 750-watt -48 V to -60 V dc power source.

- IBM service technicians are not certified or authorized to install or remove the 750-watt -48 V to -60 V dc power cable. You are responsible for ensuring that only a trained service technician install or remove the -48 V to -60 V dc power cable.
- You can install up to two dc power supplies or two ac power supplies in the server, but you cannot mix dc and ac power supplies in the same server.
- To reduce the risk of electric shock or energy hazards when installing the 750-watt -48 V to -60 V dc power supplies, take the following steps:
 - Use a circuit breaker that is rated 40 amps.
 - Use 4 mm² (10 AWG) at 60° C copper wire.
 - Cut the power cable wires to the correct length, but do not cut the wires shorter than 150 mm (6 inches).
 - Torque the wiring-terminal screws to 0.50 ~ 0.60 newton-meters (4.43 ~ 5.31 inch-pounds).
- For the server to support two power supplies, you must install the optional IBM Power Interposer for Redundant Power option or the optional IBM Microprocessor and Memory Expansion Tray, if one is not installed in your model.

Statement 8



CAUTION:

Never remove the cover on a power supply or any part that has the following label attached.



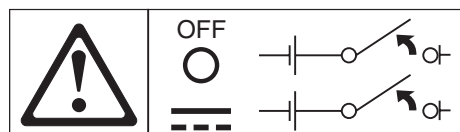
Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

Statement 19:



CAUTION:

The power-control button on the device does not turn off the electrical current supplied to the device. The device also might have more than one connection to dc power. To remove all electrical current from the device, ensure that all connections to dc power are disconnected at the dc power input terminals.



Statement 31:



DANGER

Electrical current from power, telephone, and communication cables is hazardous.

To avoid a shock hazard:

- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- Connect all power cords to a properly wired and grounded power source.
- Connect to properly wired power sources any equipment that will be attached to this product.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached ac power cords, dc power sources, network connections, telecommunications systems, and serial cables before you open the device covers, unless you are instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following table when you install, move, or open covers on this product or attached devices.

To Connect:

1. Turn OFF all power sources and equipment that is to be attached to this product.
2. Attach signal cables to the product.
3. Attach power cords to the product.
 - For ac systems, use appliance inlets.
 - For dc systems, ensure correct polarity of -48 V dc connections: RTN is + and -48 V dc is -. Earth ground should use a two-hole lug for safety.
4. Attach signal cables to other devices.
5. Connect power cords to their sources.
6. Turn ON all the power sources.

To Disconnect:

1. Turn OFF all power sources and equipment that is to be attached to this product.
 - For ac systems, remove all power cords from the chassis power receptacles for interrupt power at the ac power distribution unit.
 - For dc systems, disconnect dc power sources at the breaker panel or by turning off the power source. Then, remove the dc cables.
2. Remove the signal cables from the connectors.
3. Remove all cables from the devices.

Statement 34:



CAUTION:

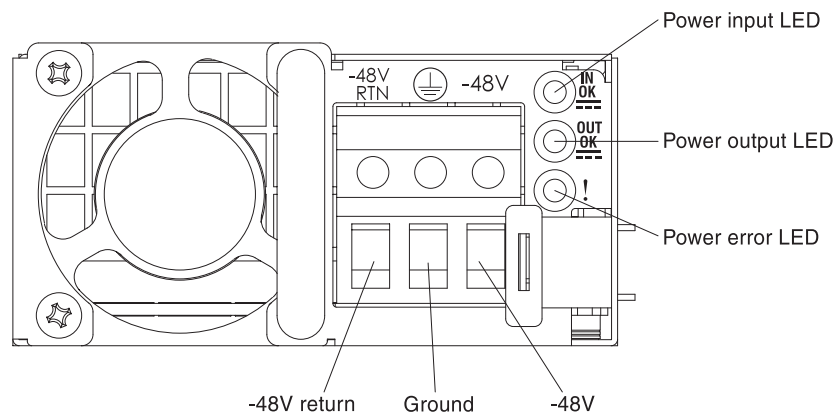
To reduce the risk of electric shock or energy hazards:

- This equipment must be installed by trained service personnel in a restricted-access location, as defined by the NEC and IEC 60950-1, First Edition, The Standard for Safety of Information Technology Equipment.
- Connect the equipment to a properly grounded safety extra low voltage (SELV) source. A SELV source is a secondary circuit that is designed so that normal and single fault conditions do not cause the voltages to exceed a safe level (60 V direct current).
- Incorporate a readily available approved and rated disconnect device in the field wiring.
- See the specifications in the product documentation for the required circuit-breaker rating for branch circuit overcurrent protection.
- Use copper wire conductors only. See the specifications in the product documentation for the required wire size.
- See the specifications in the product documentation for the required torque values for the wiring-terminal screws.

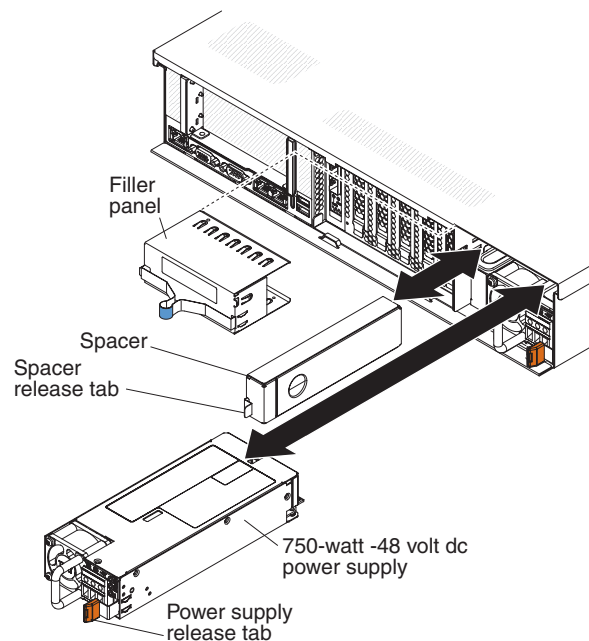
To install a 750-watt -48 V to -60 V dc power supply, complete the following steps:

1. Touch the static-protective package that contains the power supply to any unpainted metal surface on the server; then, remove the power supply from the package and place it on a static-protective surface.

2. Make sure that the circuit breaker for the dc power supply is off.
3. Attach the dc power cable to the new power supply. Make sure that the power cable wires are connected securely to the -48 V, ground, and to the -48 V return terminals (as shown in the following illustration).



4. Facing the rear of the server, insert the power supply spacer into the left side of the power-supply bay (against the bay wall) against the wall on the left side of the power supply bay, if you removed it.



5. Slide the power supply spacer into the bay until it snaps into place on the tabs that are on the side of the bay.
6. Grasp the handle on the rear of the power supply and slide the power supply forward into the power-supply bay until it clicks. Make sure that the power supply connects firmly into the power-supply connector.
7. Route the power cord through the hook-and-loop strap so that it does not accidentally become disconnected.
8. Turn on the circuit breaker(s) for the dc power supplies.
9. Reconnect any external cables that you disconnected.
10. Slide the server back into the rack, if it was in a rack.
11. Turn on the server and the peripheral devices.
12. Make sure that the server starts correctly and recognizes the newly installed device, and make sure that no error LEDs are lit.

Removing the system board

Before you remove the system board from the server, take the following steps to save data, firmware, and configuration data:

- Record all system configuration information, such as IMM IP addresses, vital product data, and the machine type, model number, serial number, Universally Unique Identifier, and asset tag of the server.
- Using the Advanced Settings Utility (ASU), save the system configuration to external media.
- Save the system-event log to external media.

Note: When you replace the system board, you must either update the server with the latest firmware or restore the pre-existing firmware that the customer provides on a CD or DVD image. Make sure that you have the latest firmware or a copy of the pre-existing firmware before you proceed.

To remove the system board, complete the following steps:

1. Read the safety information and installation guidelines, see “Safety” on page vii and “Installation guidelines” on page 33.
2. Turn off the server (see “Turning off the server” on page 21) and all attached peripheral devices. Disconnect all power cords; then, disconnect all external cables as necessary to replace the device.
3. If the server is in a rack, slide the server out of the rack.
4. Remove the server cover (see “Removing the server top cover” on page 199).
5. Remove the fan cage assembly (see “Removing the fan cage assembly” on page 237).
6. Remove the DIMM air baffle, if one is installed (see “Removing the DIMM air baffle” on page 204).
7. Slide the power supplies out of the bays slightly to disengage them from the connectors.
8. Remove the microprocessor and memory expansion tray, if one is installed (see “Removing the microprocessor and memory expansion tray assembly” on page 269).
9. Remove the microprocessor air baffle (see “Removing the microprocessor air baffle” on page 202).
10. Disconnect all cables from the system board. Make a list of each cable as you disconnect it; you can then use this as a checklist when you install the new system board.
11. Disconnect all remote RAID battery cables or flash power module cables from the adapters and remove the batteries or flash power module from the trays located on top of the USB/video assembly, if any are installed (see “Removing a RAID battery or flash power module” on page 242).
12. Remove the DIMMs from the system board and set them aside on a static-protective surface for reinstallation (see “Removing a memory module” on page 216).

Note: Make a note of the location of each DIMM as you remove it, so that you can later reinstall it in the same connector.

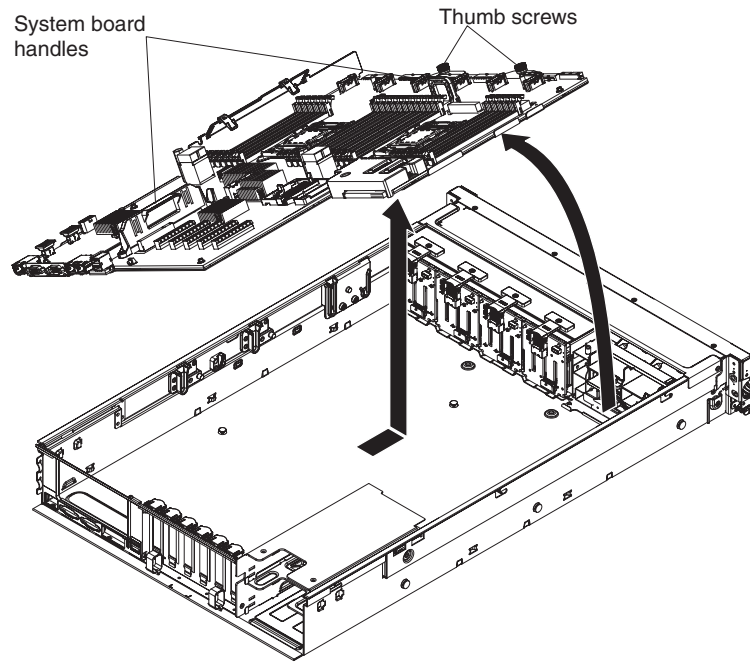
13. Remove the RAID cache cards from the system board, if any are installed (see “Removing a RAID cache card” on page 242).
14. Remove the power interposer card assembly, if one is installed (see “Removing the power interposer for redundant power supply card assembly” on page 255).

15. Remove the PCIe riser-card assembly, if it is installed (see “Removing a PCI riser-card assembly” on page 250).
16. Remove any adapters that are installed on the system board (see “Removing an adapter” on page 206).
17. Remove the 10 Gb Ethernet adapter, if one is installed (see “Removing the IBM Dual-port 10Gb-T (copper) Ethernet Adapter or the IBM Dual-port 10Gb SFP+ (fibre) Ethernet Adapter” on page 239).
18. Remove the USB embedded hypervisor flash device (see “Removing a USB embedded hypervisor flash device” on page 228).
19. Remove all heat sinks and microprocessors, and set them aside on a static-protective surface for reinstallation (see “Removing a microprocessor and heat sink” on page 263).

Note:

- a. Remove the socket covers from the microprocessor frame brackets on the new system board and place them on the microprocessor sockets of the old system board that you are removing.
 - b. Use an alcohol wipe to remove any thermal grease from the tabs on the microprocessor bracket frame on the old system board.
 - c. Use the microprocessor tool that comes in the system board FRU to remove and replace microprocessors.
 - d. Remove the microprocessors from the old system board and place them directly onto the new system board sockets. Keep the heat sink and microprocessor from each microprocessor socket of the old system board together so that you can install them on the new system board on the same socket together. For example, when you remove the heat sink and microprocessor from microprocessor socket 1 of the old system board , install them both on the same socket (socket 1) on the new system board.
20. Remove the backplanes and cables, if necessary to access and remove the system board.
 21. Loosen the thumbscrews (near the front of the server) that secure the system board to the server and slide the system board toward the front of the server.

Note: Remove the drive backplanes, if necessary.



22. Grasp both system-board handles and lift up the left side of the system board slightly and carefully remove it from the chassis, being careful not to damage any surrounding components.

Note: Use the system-board handles to lift the system board only. Do not attempt to lift the server using the system board handles.

23. If you are instructed to return the system board, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

Replacing the system board

Note:

- When you reassemble the components in the server, be sure to route all cables carefully so that they are not exposed to excessive pressure and so that they do not get pinched when you reinstall the system board.
- When you replace the system board, you must either update the server with the latest firmware or restore the pre-existing firmware that the customer provides on a diskette or CD image. Make sure that you have the latest firmware or a copy of the pre-existing firmware before you proceed. See “Updating the firmware” on page 121 and “Updating the Universal Unique Identifier and DMI/SMBIOS data” on page 139 for more information.

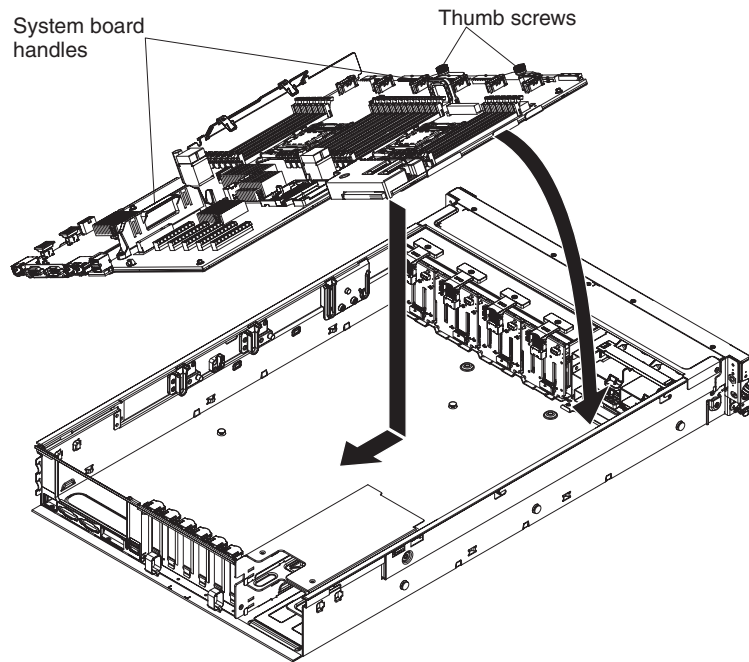
Attention: Installing the wrong firmware or device-driver update might cause the server to malfunction. Before you install a firmware or device-driver update, read any readme and change history files that are provided with the downloaded update. These files contain important information about the update and the procedure for installing the update, including any special procedure for updating from an early firmware or device-driver version to the latest version.

- Reactivate any Features on Demand features. Instructions for automating the activation of features and installing activation keys is in the *IBM System x Features on Demand User's Guide*. To download the document, go to <http://www.ibm.com/systems/x/fod/>, log in, and click **Help**.

Important: Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code

To install the system board, complete the following steps:

1. Read the safety information that begins on page “Safety” on page vii and “Installation guidelines” on page 33.
2. Align the system board with the slots on the side of the chassis and lower the right side into the chassis first; then, lower the other side of the system board into the chassis.



3. Slide the system-board toward the rear of the server to secure it in place.
4. Tighten the thumbscrews to secure the system board to the chassis.
5. Reinstall the DIMMs onto the system board (see “Replacing a memory module” on page 217).
6. Reinstall the heat sinks (see “Replacing a microprocessor and heat sink” on page 265).

Note:

- a. Make sure that the socket covers from the microprocessor frame brackets on the new system board were placed on the microprocessor sockets on the old system board that you removed.
- b. Use an alcohol wipe to remove any thermal grease from the tabs on the microprocessor bracket frame on the old system board.
- c. Use the microprocessor tool that comes in the system board FRU to remove and replace microprocessors.
- d. Remove and keep the heat sink and microprocessor from each microprocessor socket of the old system board together and install them on the new system board on the same socket together. For example, when you removed the heat sink and microprocessor from microprocessor socket 1 of the old system board, you installed them both on the same socket (socket 1) on the new system board.

7. Reinstall the microprocessor air baffle (see “Replacing the microprocessor air baffle” on page 203).
8. Reinstall the USB embedded hypervisor flash device, if you removed it earlier (see “Replacing a USB embedded hypervisor flash device” on page 229).
9. Reinstall the PCI riser-card assembly, if any were installed (see “Replacing a PCI riser-card assembly” on page 250).
10. Reinstall any adapters that were removed from the system board, if you removed them earlier (see “Replacing an adapter” on page 207).
11. Reinstall the RAID cache cards, if you removed them earlier (see “Replacing a RAID cache card” on page 244).
12. Reinstall the 10 Gb Ethernet adapter, if you removed it earlier (see “Replacing the IBM Dual port 10Gb-T (copper) Ethernet Adapter or the IBM Dual port 10Gb SFP+ (fibre) Ethernet Adapter” on page 240).
13. Reinstall the power interposer card assembly, if you removed it earlier (see “Replacing a power interposer redundant power supply card assembly” on page 256).
14. Reconnect the cables that you disconnected earlier to the system board.
15. Reconnect the remote RAID battery cables and flash power module cables to the adapters and install the RAID batteries in the trays located on the top of the front USB/video assembly, if you removed them earlier.
16. Reinstall DIMM air baffle, if one was installed (see “Replacing the DIMM air baffle” on page 205).
17. Reinstall the microprocessor and memory expansion tray, if one was installed (see “Replacing the microprocessor and memory expansion tray assembly” on page 270).
18. Slide the power supplies back into the bays until they click into place.
19. Reinstall the backplanes and cables, if you removed them.
20. Reinstall the fan cage assembly (see “Replacing the fan cage assembly” on page 238).
21. Reinstall the cover (see “Replacing the server top cover” on page 200).
22. Slide the server into the rack.
23. Reconnect the power cords and any cables that you removed.
24. Turn on the peripheral devices and the server.

Important: Perform the following updates:

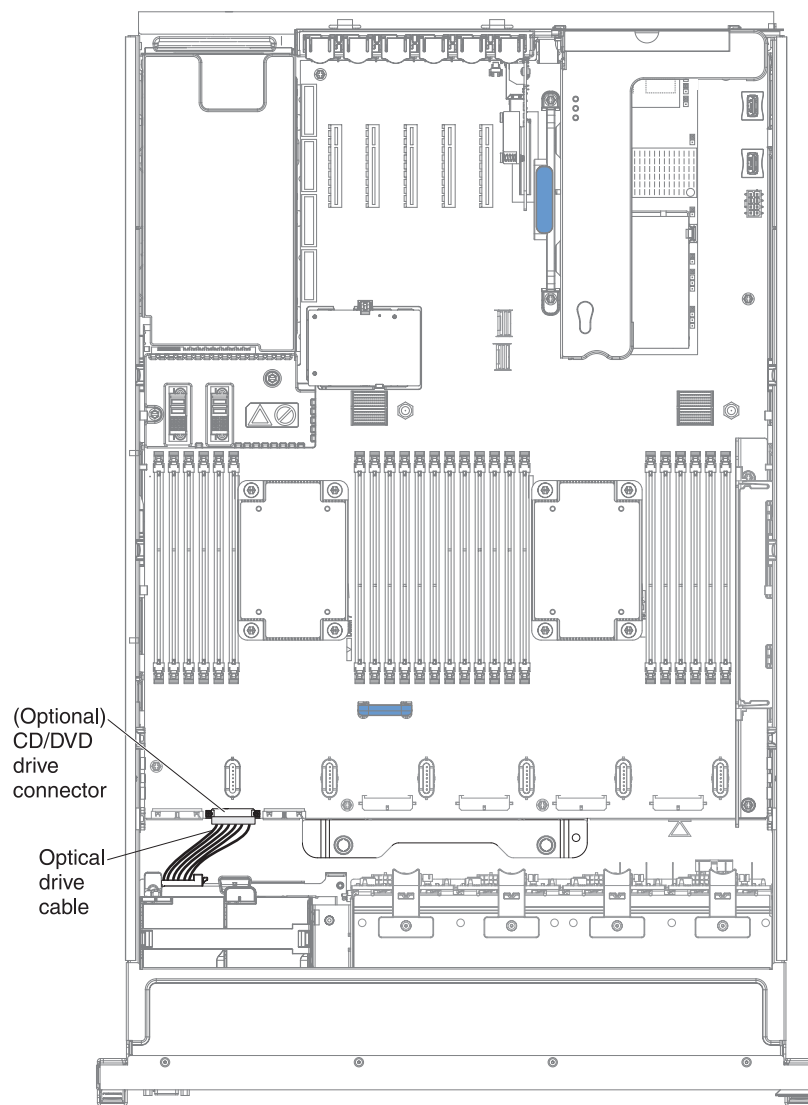
- Either update the server with the latest RAID firmware or restore the pre-existing firmware from a CD or DVD image.
- Update the UUID and the DMI/SMBIOS (see “Updating the Universal Unique Identifier and DMI/SMBIOS data” on page 139).

Internal cable routing

This section provides information about routing the cables when you install some components in the server.

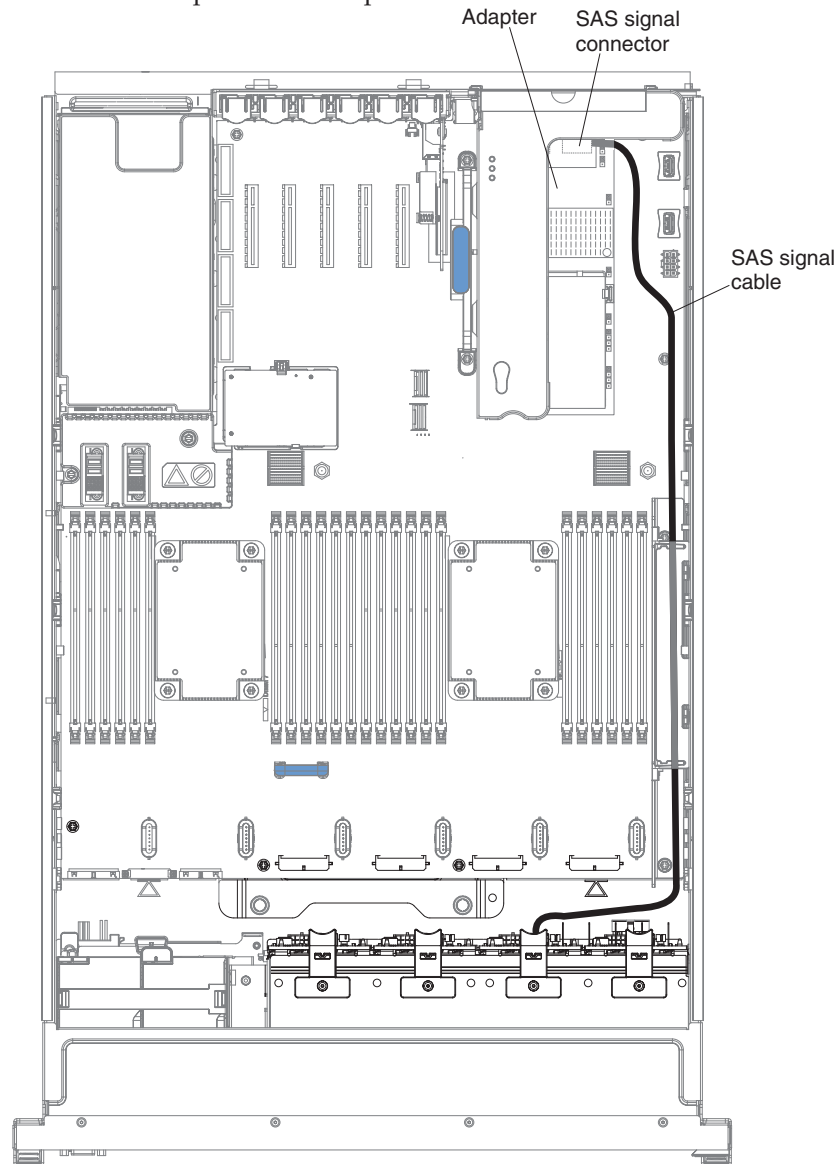
For more information about the requirements for cables and connecting devices, see the documentation that comes with these devices.

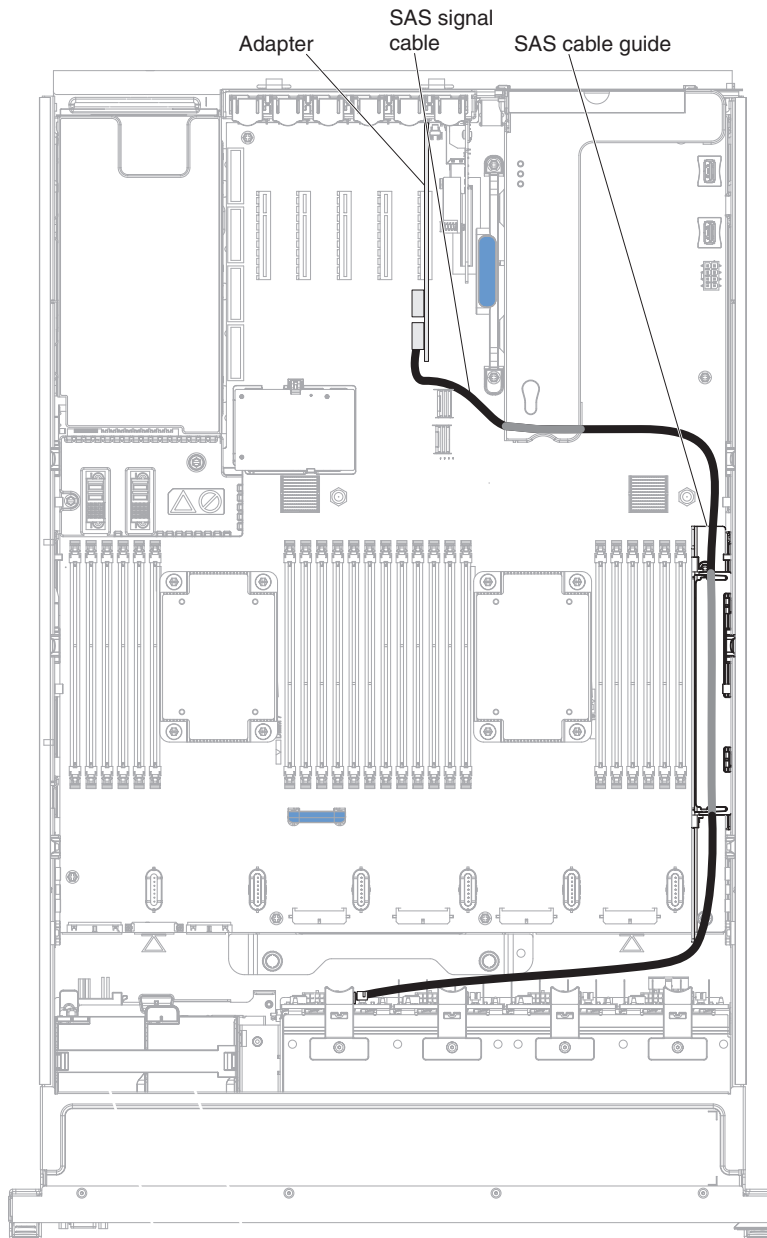
Cabling the CD/DVD drive:



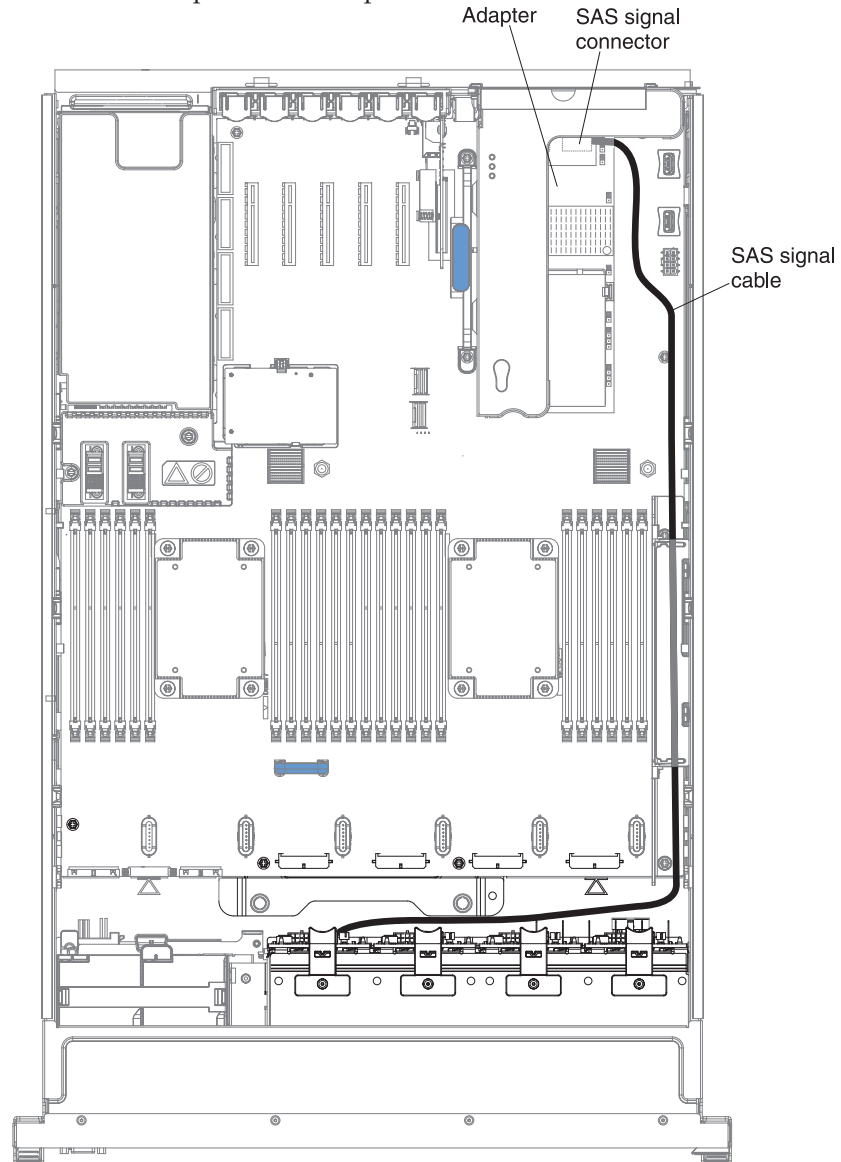
Cabling the SAS signal cables to the adapter and the backplane:

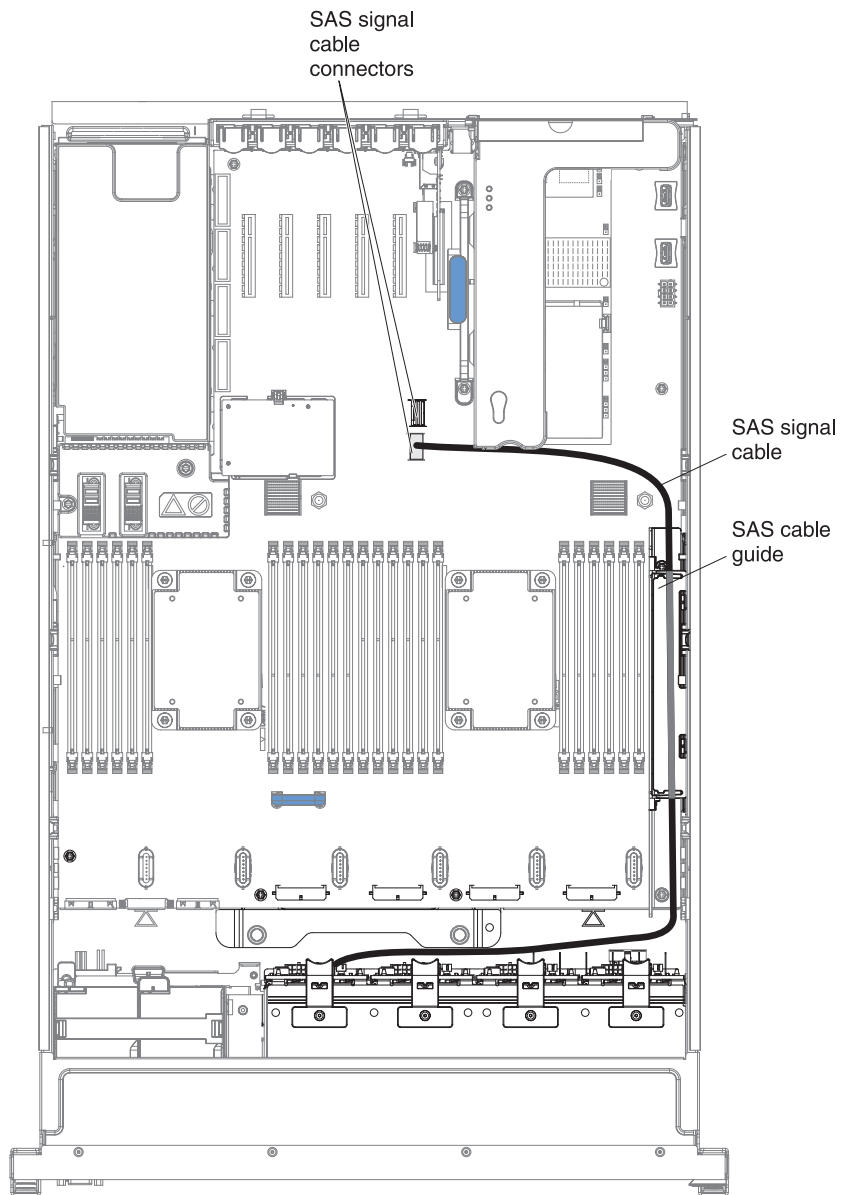
8x1.8-inch backplane and adapter:





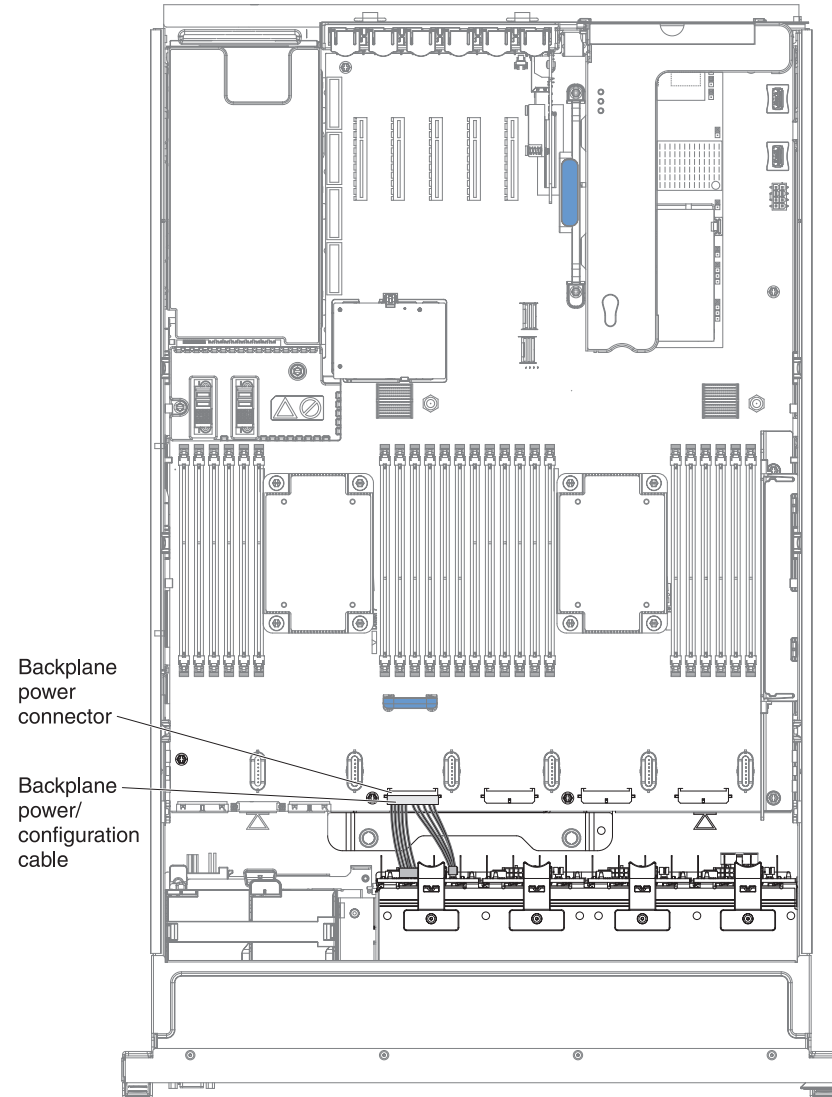
8x2.5-inch backplane and adapter:



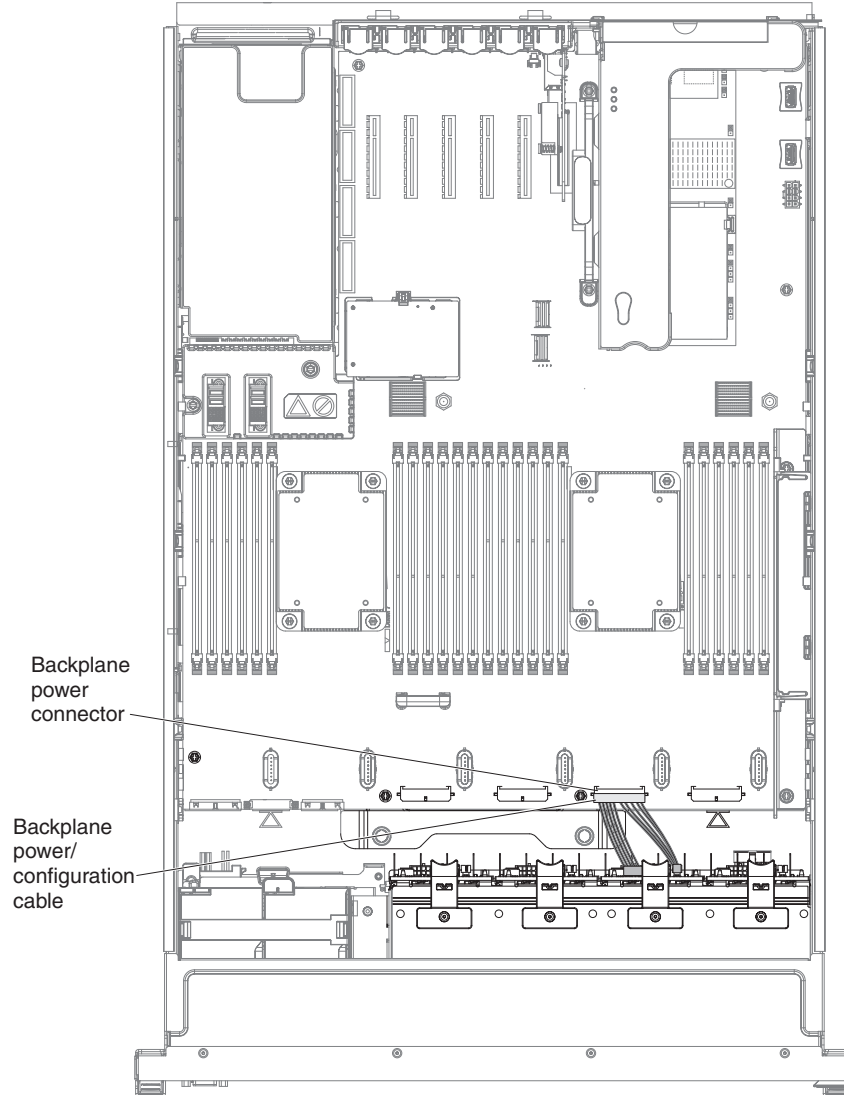


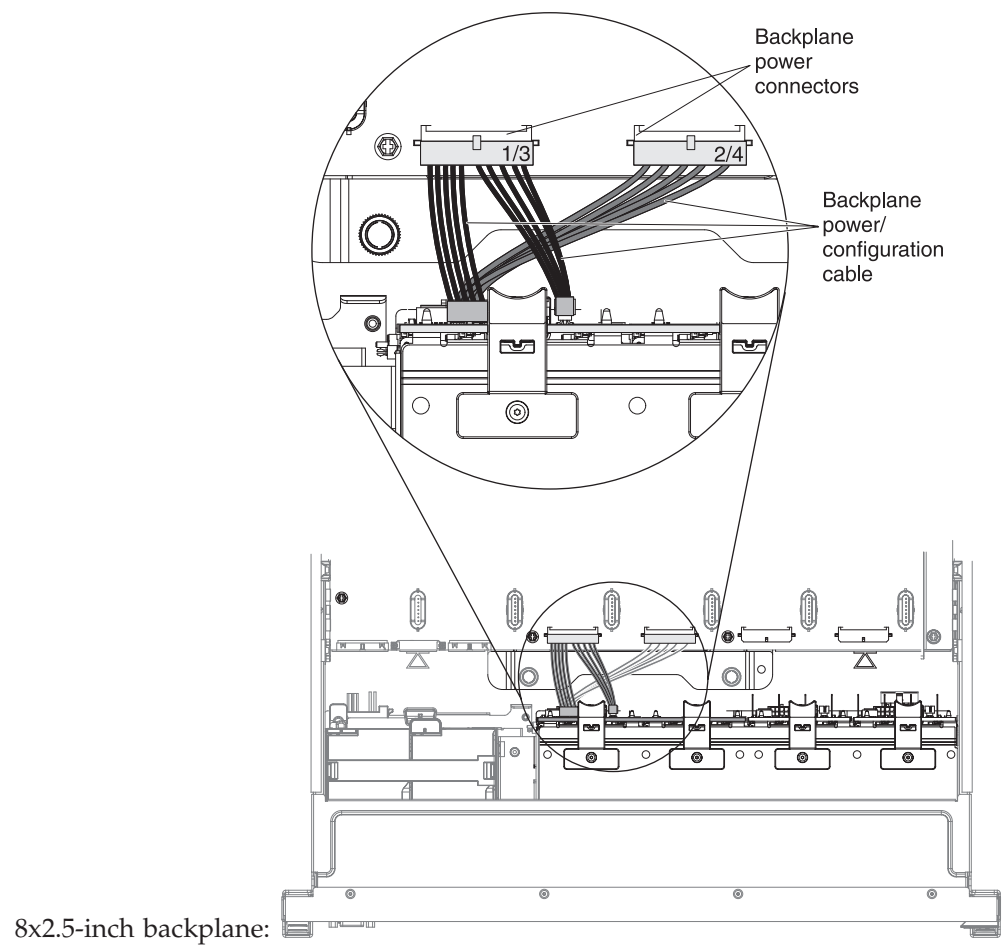
Cabling the combination power/configuration cable to the backplanes:

4x2.5-inch backplane:

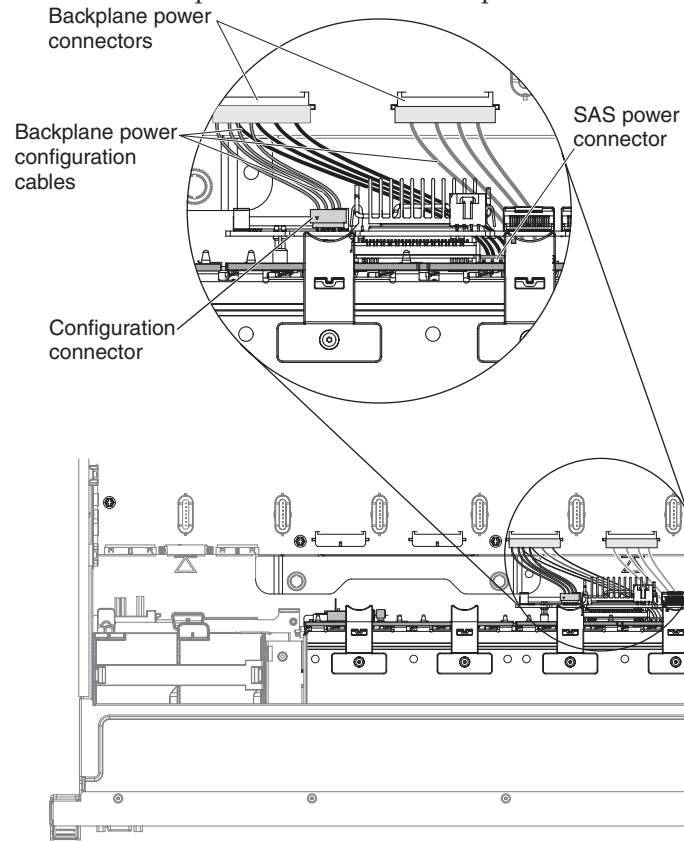


8x1.8-inch backplane:

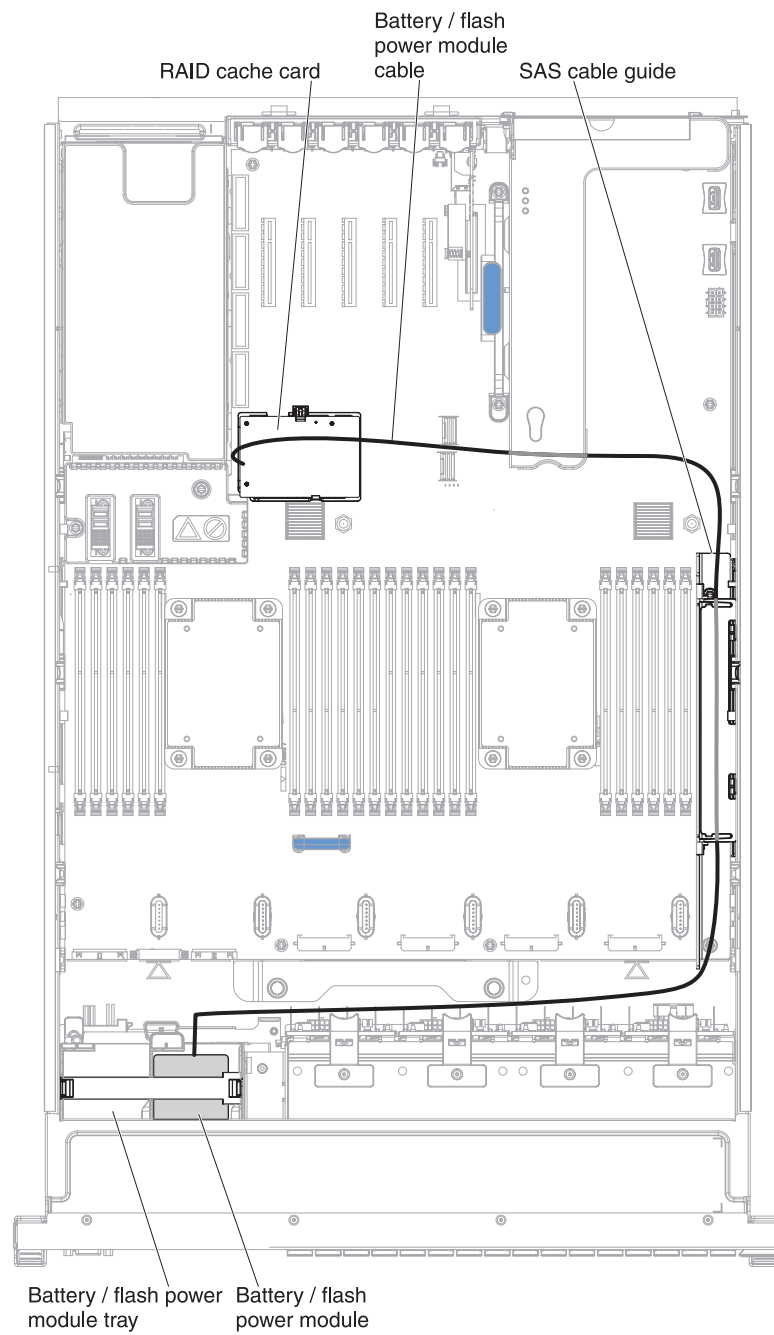


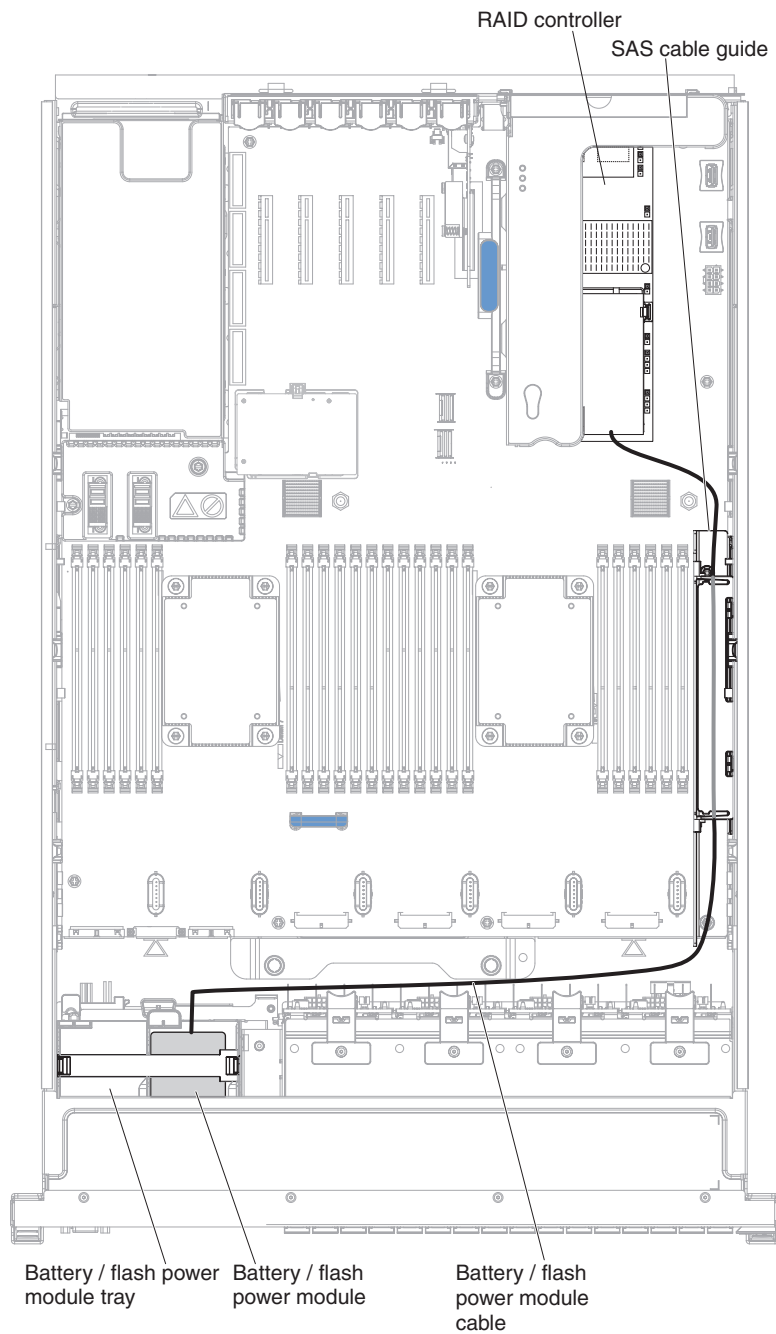


8x2.5-inch backplane with controller expander:



Cabling the RAID cache card and battery or flash power module:





Appendix A. UEFI/POST error codes

UEFI/POST diagnostic error codes can be generated when the server starts or while the server is running. UEFI/POST codes are logged in the IMM event log in the server.

For each event code, the following fields are displayed:

Event identifier

An identifier that uniquely identifies an event.

Event description

The logged message string that appears for an event.

Explanation

Additional information to explain why the event occurred.

Severity

An indication of the level of concern for the condition. The severity is abbreviated in the event log to the first character. The following severities can be displayed.

Table 27. Event severity levels

Severity	Description
Informational	An informational message is something that was recorded for audit purposes, usually a user action or a change of states that is normal behavior.
Warning	A warning is not as severe as an error, but if possible, the condition should be corrected before it becomes an error. It might also be a condition that requires additional monitoring or maintenance.
Error	An error typically indicates a failure or critical condition that impairs service or an expected function.

User response

The actions that you should take to resolve the event.

Perform the steps in the order shown until the problem is solved. After you perform all of the actions that are described in this field, if you cannot solve the problem, contact IBM Support.

The following is the list of the UEFI/POST error codes and suggested actions to correct the detected problems.

I.11002	[I.11002] A processor mismatch has been detected between one or more processors in the system.	
Explanation:	One or More mismatched processors were detected.	
Severity:	Info	
User response:	Complete the following steps:	<ol style="list-style-type: none">1. Check the log for other messages related to processor configuration issues and resolve those issues.2. Make sure that matching Processors are installed in the correct processor sockets according to the product documentation for the system. See the section entitled, "Installing a microprocessor and heat sink" for more information.3. Check the IBM support site for any service bulletins or firmware updates that apply to this processor error.

I.18005 • I.1800A

4. Replace one of the mismatching processors. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.

I.18005 [I.18005] A discrepancy has been detected in the number of cores reported by one or more processor packages within the system.

Explanation: The processors have mismatched number of cores.

Severity: Info

User response: Complete the following steps:

1. If this is a newly installed option, ensure that matching processors are installed in the correct processor sockets according to the product documentation for the system. See the section entitled, "Installing a microprocessor and heat sink" for more information.
2. Check the IBM support site for service bulletins that apply to this processor error.
3. Replace one of the mismatching processors. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.

I.18006 [I.18006] A mismatch between the maximum allowed QPI link speed has been detected for one or more processor packages.

Explanation: The processors have mismatched QPI speeds.

Severity: Info

User response: Complete the following steps:

1. If this is a newly installed option, ensure that matching processors are installed in the correct processor sockets according to the product documentation for the system. See the section entitled, "Installing a microprocessor and heat sink" for more information.
2. Check the IBM support site for service bulletins or firmware updates that apply to this processor error.
3. Replace one of the mismatching processors. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.

I.18007 [I.18007] A power segment mismatch has been detected for one or more processor packages.

Explanation: The installed processors do not have the same power requirements.

Severity: Info

User response: Complete the following steps:

1. Ensure that all processors have matching power requirements (such as 65, 95, or 130 watts).
2. If power requirements match, check the IBM support site for any service bulletins or firmware updates that apply to this processor error.
3. Replace one of the mismatching processors. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.

I.18008 [I.18008] Currently, there is no additional information for this event.

Explanation: The processors have mismatched internal DDR3 frequencies.

Severity: Info

User response: Complete the following steps:

1. Verify that matching processors are installed in the correct processor sockets, according to the product documentation for the system. See the section entitled, "Installing the microprocessor and heat sink" for more information.
2. Check the IBM support site for service bulletins or firmware updates that apply to this processor error.
3. Replace the associated processor. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.

I.18009 [I.18009] A core speed mismatch has been detected for one or more processor packages.

Explanation: The processors have mismatched core speeds.

Severity: Info

User response: Complete the following steps:

1. Verify that matching processors are installed in the correct processor sockets, according to the product documentation for the system. See the section entitled, "Installing the microprocessor and heat sink" for more information.
2. Check the IBM support site for service bulletins or firmware updates that apply to this processor error.
3. Replace the processor. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.

I.1800A [I.1800A] A mismatch has been detected between the speed at which a QPI link has trained between two or more processor packages.

Explanation: The processors have mismatched bus speeds.

Severity: Info

User response: Complete the following steps:

1. Check the IBM ServerProven Web site to validate that the processor is a valid option for this system. If not, remove the processor and install one that is a valid option.
2. Verify that matching processors are installed in the correct population sequence, according to the product documentation for the system. See the section entitled, "Installing the microprocessor and heat sink" for more information.
3. Check the IBM support site for service bulletins or firmware updates that apply to this processor error.
4. Replace the processor. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.

I.1800B **[I.1800B] A cache size mismatch has been detected for one or more processor packages.**

Explanation: The processors have one or more cache levels with mismatched sizes.

Severity: Info

User response: Complete the following steps:

1. Verify that matching processors are installed in the correct population sequence, according to the product documentation for the system. See the section entitled, "Installing the microprocessor and heat sink" for more information.
2. Check the IBM support site for service bulletins or firmware updates that apply to this processor error.
3. Replace the processor. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.

I.1800C **[I.1800C] A cache type mismatch has been detected for one or more processor packages.**

Explanation: The processors have one or more cache levels with mismatched types.

Severity: Info

User response: Complete the following steps:

1. Verify that matching processors are installed in the correct population sequence, according to the product documentation for the system. See the section entitled, "Installing the microprocessor and heat sink" for more information.
2. Check the IBM support site for service bulletins or firmware updates that apply to this processor error.

3. Replace the processor. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.
4. Replace the system board.

I.1800D **[I.1800D] A cache associativity mismatch has been detected for one or more processor packages.**

Explanation: The processors have one or more cache levels with mismatched associativities.

Severity: Info

User response: Complete the following steps:

1. Verify that matching processors are installed in the correct population sequence, according to the product documentation for the system. See the section entitled, "Installing the microprocessor and heat sink" for more information.
2. Check the IBM support site for service bulletins or firmware updates that apply to this processor error.
3. Replace the processor. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.
4. Replace the system board.

I.1800E **[I.1800E] A processor model mismatch has been detected for one or more processor packages.**

Explanation: The processors have mismatched model numbers.

Severity: Info

User response: Complete the following steps:

1. Verify that matching processors are installed in the correct population sequence, according to the product documentation for the system. See the section entitled, "Installing the microprocessor and heat sink" for more information.
2. Check the IBM support site for service bulletins or firmware updates that apply to this processor error.
3. Replace the processor. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.
4. Replace the system board.

I.1800F **[I.1800F] A processor family mismatch has been detected for one or more processor packages.**

Explanation: The processors have mismatched families.

Severity: Info

User response: Complete the following steps:

1. Verify that matching processors are installed in the correct population sequence, according to the product documentation for the system. See the section entitled, "Installing the microprocessor and heat sink" for more information.
2. Check the IBM support site for service bulletins or firmware updates that apply to this processor error.
3. Replace the processor. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.
4. Replace the system board.

I.18010 **[I.18010] A processor stepping mismatch has been detected for one or more processor packages.**

Explanation: The processors of the same model have mismatched Stepping IDs.

Severity: Info

User response:

1. Verify that matching processors are installed in the correct population sequence, according to the product documentation for the system. See the section entitled, "Installing the microprocessor and heat sink" for more information.
2. Check the IBM support site for service bulletins or firmware updates that apply to this processor error.
3. Replace the processor. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.
4. Replace the system board.

I.2018002 **[I.2018002] The device found at Bus % Device % Function % could not be configured due to resource constraints. The Vendor ID for the device is % and the Device ID is %.**

Explanation: OUT_OF_RESOURCES (PCI Option ROM)

Severity: Info

User response: Complete the following steps:

1. If this PCIe device or any attached cables were installed, moved, serviced or upgraded recently, reseal the adapter and any attached cables.
2. Check the IBM support site for any service bulletin or firmware updates that apply to this error. It might be necessary to disable unused option ROMs from the UEFI F1 Setup, from the ASU, or by using the adapter manufacturer utilities so that adapter firmware can be updated.
3. Move the adapter to a different slot. If a slot is not available or error recurs, replace the adapter.

4. If adapter was moved to a different slot and error did not recur, verify that this is not a system limitation. Then replace the system board. Also, if this is not the initial installation and the error persists after adapter replacement, replace the system board.

I.2018003 **[I.2018003] A bad option ROM checksum was detected for the device found at Bus % Device % Function %. The Vendor ID for the device is % and the Device ID is %.**

Explanation: ROM CHECKSUM ERROR

Severity: Info

User response: Complete the following steps:

1. If this PCIe device or any attached cables were installed, moved, serviced or upgraded recently, reseal the adapter and any attached cables.
2. Move the adapter to a different system slot, if a slot is available.
3. Check the IBM support site for any service bulletins or firmware updates that apply to this error. It might be necessary to configure slot to Gen1 or to use special utility software so that adapter firmware can be upgraded. Gen1/Gen2 settings can be configured via F1 Setup -> System Settings -> Devices and I/O Ports -> PCIe Gen1/Gen2/Gen3 Speed Selection, or the ASU Utility.
4. Replace the adapter.

I.3048005 **[I.3048005] UEFI has booted from the backup flash bank.**

Explanation: Booting Backup UEFI Image

Severity: Info

User response: Refer to the section on recovering a UEFI image from an update failure for instructions on how to restore the system to the primary bank.

I.3808004 **[I.3808004] The IMM System Event log (SEL) is full.**

Explanation: The System Event Log is Full

Severity: Info

User response: Complete the following steps:

1. Use the IMM Web Interface to clear event log.
2. If IMM communication is unavailable, use the Setup utility to access the System Event Logs Menu and choose Clear System Event Log. Then restart the system.

I.3818001 [I.3818001] The firmware image capsule signature for the currently booted flash bank is invalid.

Explanation: Current Bank CRTM Capsule Update Signature Invalid

Severity: Info

User response: Complete the following steps:

1. Reboot the system. The system should boot up using the backup UEFI image. Update the primary UEFI image.
2. If error does not persist, no additional recovery action is required.
3. If error persists, or the system boot is unsuccessful, replace the system board.

I.3818002 [I.3818002] The firmware image capsule signature for the non-booted flash bank is invalid.

Explanation: Opposite Bank CRTM Capsule Update Signature Invalid

Severity: Info

User response: Complete the following steps:

1. Update the backup UEFI image.
2. If error does not persist, no additional recovery action is required.
3. If error persists, or boot is unsuccessful, replace the system board.

I.3818003 [I.3818003] The CRTM flash driver could not lock the secure flash region.

Explanation: CRTM Could not lock secure flash region

Severity: Info

User response: Complete the following steps:

1. If system failed to boot successfully, remove the system from power and apply power to the system again. Then restart the system.
2. If system boots to F1 setup, update the UEFI firmware and reset the bank to primary (if required). If system boots without error, recovery is complete and no additional action is required.
3. If system fails to boot, or if the firmware update fails, replace the system board.

I.58015 [I.58015] Memory spare copy initiated.

Explanation: Spare Copy Started

Severity: Info

User response: Information only; no action is required.

I.580A4 [I.580A4] Memory population change detected.

Explanation: DIMM Population Change Detected

Severity: Info

User response: Check the event log for any events related to uncorrected DIMM failures and resolve those issues.

I.580A5 [I.580A5] Mirror Fail-over complete. DIMM number % has failed over to the mirrored copy.

Explanation: DIMM Mirror Fail-over Detected

Severity: Info

User response: Check the event log for any events related to uncorrected DIMM failures and resolve those issues.

I.580A6 [I.580A6] Memory spare copy has completed successfully.

Explanation: Spare Copy Complete

Severity: Info

User response: Check the event log for any events related to uncorrected DIMM failures and resolve those issues.

S.1100C [S.1100C] An uncorrectable error has been detected on processor %.

Explanation: An uncorrectable processor error was detected.

Severity: Error

User response: Complete the following steps:

1. Check the IBM support site for service bulletins or firmware updates that apply to this processor error.
2. Reboot the system. If problem persists, contact Support.

S.2011001 [S.2011001] An Uncorrected PCIe Error has Occurred at Bus % Device % Function %. The Vendor ID for the device is % and the Device ID is %.

Explanation: PCI SERR Detected

Severity: Error

User response: Complete the following steps:

1. If this system or any attached cables were installed, moved, serviced or upgraded recently, complete the following steps:
 - Reseat the adapter and any attached cables.
 - Reload the Device Driver.

- If the device is not recognized, reconfiguring slot to Gen1 or Gen2 might be required. Gen1/Gen2 settings can be configured via F1 Setup -> System Settings -> Devices and I/O Ports -> PCIe Gen1/Gen2/Gen3 Speed Selection, or by using the ASU Utility.
- 2. Check IBM support site for any device drivers, firmware updates, or other information that applies to this error. Load new device drivers and install any required firmware updates.
- 3. If problem persists, remove the adapter. If system reboots successfully without the adapter, replace that adapter.
- 4. Replace the processor.

S.2018001 [S.2018001] An Uncorrected PCIe Error has Occurred at Bus % Device % Function %. The Vendor ID for the device is % and the Device ID is %.

Explanation: PCIe Uncorrected Error Detected

Severity: Error

User response: Complete the following steps:

1. If this system or any attached cables were installed, moved, serviced or upgraded recently, complete the following steps:
 - Reseat the adapter and any attached cables.
 - Reload the Device Driver.
 - If the device is not recognized, reconfiguring slot to Gen1 or Gen2 might be required. Gen1/Gen2 settings can be configured via F1 Setup -> System Settings -> Devices and I/O Ports -> PCIe Gen1/Gen2/Gen3 Speed Selection, or by using the ASU Utility.
2. Check IBM support site for any device drivers, firmware updates, or other information that applies to this error. Load new device drivers and install any required firmware updates.
3. If problem persists, remove the adapter. If system reboots successfully without the adapter, replace that adapter.
4. Contact Support.

S.3020007 [S.3020007] A firmware fault has been detected in the UEFI image.

Explanation: Internal UEFI Firmware Fault Detected, System halted

Severity: Error

User response: Complete the following steps:

1. Check IBM support site for any service bulletins or firmware updates that apply to this error.
2. Update the primary UEFI image.
3. Replace the system board.

S.3028002 [S.3028002] Boot permission timeout detected.

Explanation: Boot Permission Negotiation Timeout

Severity: Error

User response: Complete the following steps:

1. Check the IMM event log for communication errors and resolve those issues.
2. AC cycle the system. This will reboot the system.
3. If problem persists, contact Support.

S.3030007 [S.3030007] A firmware fault has been detected in the UEFI image.

Explanation: Internal UEFI Firmware Fault Detected, System halted

Severity: Error

User response: Complete the following steps:

1. Check IBM support site for any service bulletins or firmware updates that apply to this error.
2. Update the primary UEFI image.
3. Replace the system board.

S.3040007 [S.3040007] A firmware fault has been detected in the UEFI image.

Explanation: Internal UEFI Firmware Fault Detected, System halted

Severity: Error

User response: Complete the following steps:

1. Check IBM support site for any service bulletins or firmware updates that apply to this error.
2. Update the primary UEFI image.
3. Replace the system board.

S.3050007 [S.3050007] A firmware fault has been detected in the UEFI image.

Explanation: Internal UEFI Firmware Fault Detected, System halted

Severity: Error

User response: Complete the following steps:

1. Check IBM support site for any service bulletins or firmware updates that apply to this error.
2. Update the primary UEFI image.
3. Replace the system board.

S.3058004 [S.3058004] A Three Strike boot failure has occurred. The system has booted with default UEFI settings.

Explanation: POST failure has occurred! System booted with default settings.

Severity: Error

User response: Complete the following steps:

1. This event resets UEFI to the default settings for the next boot. If successful, you will be required to go through the Setup utility. The original UEFI settings are still present.
2. If you did not intentionally reboot the system, check the event log for any events related to the system and resolve those issues.
3. Undo any recent system changes (settings or devices added). If there were no recent system changes, remove all options from the system. Then remove the CMOS battery for 30 seconds to clear the CMOS contents. Verify that the system boots. Then, re-install options one at a time to locate the problem.
4. Check IBM support site for an applicable service bulletin or firmware update that applies to this error.
5. Update the UEFI firmware.
6. Replace the system board.

S.3060007 [S.3060007] A firmware fault has been detected in the UEFI image.

Explanation: Internal UEFI Firmware Fault Detected, System halted

Severity: Error

User response: Complete the following steps:

1. Check IBM support site for any service bulletins or firmware updates that apply to this error.
2. Update the primary UEFI image.
3. Replace the system board.

S.3070007 [S.3070007] A firmware fault has been detected in the UEFI image.

Explanation: Internal UEFI Firmware Fault Detected, System halted

Severity: Error

User response: Complete the following steps:

1. Check IBM support site for any service bulletins or firmware updates that apply to this error.
2. Update the primary UEFI image.
3. Replace the system board.

S.3108007 [S.3108007] The default system settings have been restored.

Explanation: System Configuration Restored to Defaults

Severity: Error

User response: Check the IBM support site for any

service bulletins or firmware updates that apply to this error.

S.3818004 [S.3818004] The CRTM flash driver could not successfully flash the staging area. A failure occurred.

Explanation: CRTM Update Failed

Severity: Error

User response: Complete the following steps:

1. Continue booting system. If system does not reset, manually reset the system.
2. If the error is not reported on the subsequent boot, no additional recovery action is required.
3. If the error persists, continue booting system and update the primary UEFI image.
4. Replace the system board.

S.3818007 [S.3818007] The firmware image capsules for both flash banks could not be verified.

Explanation: CRTM image capsule could not be verified

Severity: Error

User response: Complete the following steps:

1. If system failed to boot successfully, recycle AC power. Restart the system.
2. If system boots to F1 setup, update the UEFI firmware and reset the bank to primary (if required). If system boots without error, recovery is complete and no additional action is required.
3. If system fails to boot, or if the firmware update fails, replace the system board.

S.51003 [S.51003] An uncorrectable memory error was detected in DIMM slot % on rank %.

Explanation: One of the following has occurred:

- An uncorrectable memory error was detected on processor % channel %. The failing DIMM within the channel could not be determined.
- An uncorrectable memory error has been detected during POST.
- Fatal Memory Error Occurred

Severity: Error

User response: Complete the following steps:

1. If the system was recently installed, moved, serviced, or upgraded, verify that the specified DIMM is seated properly and visually verify that there is no foreign material in any DIMM connector on that memory channel. If either of these conditions is found, correct and retry with the same DIMM.

Note: Event Log may contain a recent 580A4 event denoting detected change in DIMM population that could be related to this problem.

2. If no problem is observed on the DIMM connectors or the problem persists, replace the DIMM identified by the light path LEDs or the event log entry.
3. If problem re-occurs on the same DIMM connector, replace the other DIMMs on the same memory channel.
4. Check the IBM support site for service bulletins or firmware updates that apply to this memory error.
5. If problem re-occurs on the same DIMM connector, inspect connector for damage. If damage is found, replace the system board.
6. Swap processors to see if the error follows the processor. If it does, replace the affected processor.
7. Replace the system board.

S.51006 **[S.51006] A memory mismatch has been detected. Please verify that the memory configuration is valid.**

Explanation: One or more mismatched DIMMs were detected.

Severity: Error

User response: Complete the following steps:

1. Check the log for any events related to an uncorrectable memory error or failed memory test and resolve those issues. DIMMs being disabled by other errors or actions could cause this event.
2. Verify that matching DIMMs are installed in the correct population sequence, according to the product documentation for the system. See the section entitled, "Installing a DIMM" for more information.
3. Disable memory mirroring and sparing. If this action eliminates the mismatch, check the IBM Support site for information related to this problem.
4. Update the UEFI firmware.
5. Replace the DIMM.
6. Swap processors to see if the error follows the processor. If it does, replace the affected processor.

S.51009 **[S.51009] No system memory has been detected.**

Explanation: No Memory Detected

Severity: Error

User response: Complete the following steps:

1. Make sure that one or more DIMMs are installed in the server.
2. If no memory fault is recorded in the logs and no DIMM connector error LEDs are lit, verify that all

DIMMs are enabled using the Setup utility or the Advanced Settings Utility (ASU).

3. Reinstall all DIMMs, verifying the correct population sequence according to the product documentation for the system. See the section entitled, "Installing a DIMM" for more information.
4. Replace the processor.
5. Replace the system board.

S.58008 **[S.58008] A DIMM has failed the POST memory test.**

Explanation: DIMM Failed Memory Test

Severity: Error

User response: Complete the following steps:

1. Restart the system to re-enable the affected DIMM. You can also use the Setup utility to re-enable the DIMM manually.
 2. If the system was recently installed, moved, serviced, or upgraded, verify that the specified DIMM is seated properly and visually verify that there is no foreign material in any DIMM connector on that memory channel. If either of these conditions is found, correct and retry with the same DIMM.
 - Note:** Event Log may contain a recent 580A4 event denoting detected change in DIMM population that could be related to this problem.
 3. If problem persists, replace the DIMM identified by the light path LEDs or an event log entry.
 4. If problem recurs on the same DIMM connector, swap the other DIMMs on the same memory channel across channels one at a time to a different memory channel or processor. See the section "Installing a DIMM" in the product documentation for population requirements for sparing/paring modes. If problem follows a moved DIMM to a different memory channel, replace that DIMM.
 5. Check the IBM support site for service bulletins or firmware updates that apply to this memory error.
 6. If problem stays with the original DIMM connector, re-inspect the DIMM connector for foreign material and remove any foreign material that is found. If the connector is damaged, replace the system board.
 7. Remove the affected processor and inspect the processor socket pins for damaged or mis-aligned pins. If damage is found, or this is an upgrade processor, replace the system board. If there are multiple processors, swap processors to move the affected processor to another processor socket and retry. If problem follows the affected processor or there is only one processor, replace the affected processor.
 8. Replace the system board.
-

S.68005 [S.68005] An error has been detected by the IIO core logic on Bus %. The Global Fatal Error Status register contains %. The Global Non-Fatal Error Status register contains %. Please check error logs for the presence of additional downstream device error data.

Explanation: A critical PCI error was detected.

Severity: Error

User response: Complete the following steps:

1. Check the log for a events related to an associated PCIe device and resolve those issues.
 2. Check the IBM support site for service bulletins or firmware updates that apply to this error for the system or adapter.
 3. Replace the processor.
 4. Replace the system board.
-

S.680B8 [S.680B8] Internal QPI Link Failure Detected.

Explanation: An internal QPI link failure was detected

Severity: Error

User response: Complete the following steps:

1. Check the IBM support site for service bulletins or firmware updates that apply to this processor error.
 2. Inspect the processor socket for foreign debris or damage. If debris is found, remove the debris.
 3. If the problem persists or socket damage is found, replace the processor.
 4. Replace the system board.
-

W.11004 [W.11004] A processor within the system has failed the BIST.

Explanation: Processor Self Test Failure Detected

Severity: Warning

User response:

1. If the processor or firmware was just updated, check the IBM support site for any service bulletins or firmware updates that apply to this processor error.
 2. If there are multiple processors, swap the processors to move the affected processor to another processor socket and retry. If the problem follows the affected processor, or if this is a single processor system, replace the processor. Each time you remove a processor, inspect the processor socket. If damaged or misaligned pins are found, replace system board.
 3. Replace the processor. While replacing the processor, inspect the processor socket and replace the system board if the processor socket is damaged.
-

4. Replace the system board.
-

W.3048006 [W.3048006] UEFI has booted from the backup flash bank due to an Automatic Boot Recovery (ABR) event.

Explanation: Automated Boot Recovery, Booting Backup UEFI Image

Severity: Warning

User response: Complete the following steps:

1. Check IBM support site for an any service bulletins or firmware updates that apply to this error.
 2. Update the primary UEFI image. Refer to the section on recovering a UEFI image from an update failure to store the system to the primary bank.
 3. Replace the system board.
-

W.305000A [W.305000A] An invalid date and time have been detected.

Explanation: RTC Date and Time Incorrect

Severity: Warning

User response: Complete the following steps:

1. Check the IMM event log to see if this event is immediately preceded by an 68002 error or any other battery related errors. If so, resolve those issues.
 2. Use F1 Setup to reset date and time. If problem returns after a system reset, replace the CMOS battery.
 3. If problem persists, check the IBM support site for an any service bulletins or firmware updates that apply to this error.
 4. Replace the system board.
-

W.305800 [W.305800C] DRIVER HEALTH PROTOCOL: Reports 'System Shutdown' Required Controller.

Explanation: A driver reported 'System Shutdown' required

Severity: Warning

User response: Complete the following steps:

1. Shutdown and reboot the system.
-

W.3058009 [W.3058009] DRIVER HEALTH PROTOCOL: Missing Configuration. Requires Change Settings From F1.

Explanation: A driver reported missing configuration

Severity: Warning

User response: Complete the following steps:

1. From the Setup utility, go to System Settings > Settings > Driver Health Status List and find a driver/controller reporting Configuration Required status.
2. Search for the driver menu from System Settings and change the settings appropriately.
3. Save the settings and restart the system.

W.305800A [W.305800A] DRIVER HEALTH PROTOCOL: Reports 'Failed' Status Controller.

Explanation: A driver reported 'Failed' status

Severity: Warning

User response: Complete the following steps:

1. This controller can not be used as a boot device. If a controller has managing child devices, refer to each device's status.
2. If problem persists, update the controller's firmware or replace the controller.

W.305800B [W.305800B] DRIVER HEALTH PROTOCOL: Reports 'Reboot' Required Controller.

Explanation: A driver reported 'Reboot' required

Severity: Warning

User response: Complete the following steps:

1. Reboot the system.
2. A hardware and/or software configuration change was performed. It is possible that more than one device requires configuration and repair operation.
3. Make sure to perform required actions on all the controllers before rebooting the system.
4. If problem persists, update the controller's firmware or replace the controller.

W.305800D [W.305800D] DRIVER HEALTH PROTOCOL: Disconnect Controller Failed. Requires 'Reboot'.

Explanation: A driver reported 'Disconnect Controller' failed.

Severity: Warning

User response: Complete the following steps:

1. Reboot the system.
2. On the following boot, system should reconnect the controller.
3. If problem persists, update the controller's firmware or replace the controller.

W.305800E [W.305800E] DRIVER HEALTH PROTOCOL: Reports Invalid Health Status Driver.

Explanation: A driver reported 'Invalid Health Status'

Severity: Warning

User response: Complete the following steps:

1. Make appropriate controller configuration changes and reboot the system.
2. If problem persists, update the controller's firmware or replace the controller.

W.3808000 [W.3808000] An IMM communication failure has occurred.

Explanation: IMM Communication Failure

Severity: Warning

User response: Complete the following steps:

1. Recycle AC power. This will reboot the system.
2. Check IBM support site for any service bulletins or firmware updates that apply to this error.
3. Update the IMM Firmware.
4. Update the UEFI Firmware.
5. Remove the CMOS battery for 30 seconds and then reinstall it to clear the CMOS contents.
6. As a last resort, replace the system board.

W.3808002 [W.3808002] An error occurred while saving UEFI settings to the IMM.

Explanation: Error Updating System Configuration to IMM

Severity: Warning

User response: Complete the following steps:

1. Recycle AC power. This will reboot the system.
2. Boot to the Setup utility (F1 Setup, Load Default Settings and Save Settings) to restore all settings.
3. Check IBM support site for any service bulletins or firmware updates that apply to this error.
4. Update the IMM Firmware.
5. Update the UEFI Firmware.
6. Remove the CMOS battery for 30 seconds and then reinstall it to clear the CMOS contents.
7. As a last resort, replace the system board.

W.3808003 [W.3808003] Unable to retrieve the system configuration from the IMM.

Explanation: Error Retrieving System Configuration from IMM

Severity: Warning

User response: Complete the following steps:

1. Recycle AC power. This will reboot the system.
2. Use the Setup utility (F1 Setup, Load Default Settings and Save Settings) to recover all settings.
3. Check IBM support site for any service bulletins or firmware updates that apply to this error.
4. Update the IMM Firmware.
5. Update the UEFI Firmware.
6. Remove the CMOS battery for 30 seconds and then reinstall it to clear the CMOS contents.
7. As a last resort, replace the system board.

W.3818005 [W.3818005] The CRTM flash driver could not successfully flash the staging area. The update was aborted

Explanation: CRTM Update Aborted

Severity: Warning

User response: Complete the following steps:

1. Continue booting system. If system does not reset, manually reset the system.
2. If the error is not reported on the subsequent boot, no additional recovery action is required.
3. If the error persists, continue booting system and update the UEFI firmware.
4. Replace the system board.

W.3938002 [W.3938002] A boot configuration error has been detected.

Explanation: Boot Configuration Error

Severity: Warning

User response: Complete the following steps:

1. Boot to the Setup utility (F1 Setup, Load Default Settings and Save Settings) to restore all settings.
2. Attempt to configure the system again.

W.50001 [W.50001] A DIMM has been disabled due to an error detected during POST.

Explanation: A DIMM has been disabled.

Severity: Warning

User response: Complete the following steps:

1. Check the log for any events related to memory faults and resolve those issues.
2. Re-enable the DIMM through the Setup utility or the Advanced Settings Utility (ASU).
3. Restart the system.
4. Reset the IMM to the default settings.
5. Reset UEFI to the default settings.
6. Update the IMM and UEFI firmware.
7. Replace the system board.

W.58001 [W.58001] The PFA Threshold limit (correctable error logging limit) has been exceeded on DIMM number % at address %. MC5 Status contains % and MC5 Misc contains %.

Explanation: IMM PFA Threshold Exceeded

Severity: Warning

User response: Complete the following steps:

1. If the system was recently installed, moved, serviced, or upgraded, verify that the specified DIMM is seated properly and visually verify that there is no foreign material in any DIMM connector on that memory channel. If either of these conditions is found, correct and retry with the same DIMM.

Note: Event Log may contain a recent 580A4 event denoting detected change in DIMM population that could be related to this problem.

2. Check the IBM support site for service bulletins or firmware updates that apply to this memory error.
3. If the problem persists, replace the affected DIMM (based on the light path LEDs or event log entry) at the next scheduled maintenance opportunity.
4. If problem recurs on the same DIMM, swap the other DIMMs on the same memory channel across channels one at a time to a different memory channel or processor. See the section "Installing a DIMM" in the product documentation for population requirements for sparing/paring modes. If problem follows a moved DIMM to a different memory channel, replace that DIMM.
5. If problem continues to recur on the same DIMM, re-inspect DIMM connector for foreign material and remove any foreign material that is found. If the connector is damaged, replace the system board.
6. Remove the affected processor and inspect the processor socket pins for damaged or mis-aligned pins. If damage is found, or this is an upgrade processor, replace the system board. If there are multiple processors, swap processors to move the affected processor to another processor socket and retry. If problem follows the affected processor or there is only one processor, replace the affected processor.
7. Replace the system board.

W.58007 [W.58007] Invalid memory configuration (Unsupported DIMM Population) detected. Please verify memory configuration is valid.

Explanation: Unsupported DIMM Population

Severity: Warning

User response: Complete the following steps:

1. Check the event log for any events related to an uncorrectable memory error or failed memory test and resolve those issues. DIMMs being disabled by other errors or actions could cause this event.
2. Verify that the DIMMs are installed in the correct population sequence, according to the product documentation for the system. See the section entitled, "Installing a DIMM" for more information.

W.580A1 **[W.580A1] Invalid memory configuration for Mirror Mode. Please correct memory configuration.**

Explanation: Unsupported DIMM Population for Mirror Mode

Severity: Warning

User response: Complete the following steps:

1. If a DIMM error LED is lit, resolve the issue.
2. Verify that the DIMMs are installed in the correct population sequence for mirroring mode, according to the product documentation for the system. See the section entitled, "Installing a DIMM" for more information.

W.580A2 **[W.580A2] Invalid memory configuration for Sparing Mode. Please correct memory configuration.**

Explanation: Unsupported DIMM Population for Spare Mode

Severity: Warning

User response: Verify that the DIMMs are installed in the correct population sequence for sparing mode, according to the product documentation for the system. See the section entitled, "Installing a DIMM" for more information.

W.68002 **[W.68002] A CMOS battery error has been detected**

Explanation: A CMOS battery fault was detected.

Severity: Warning

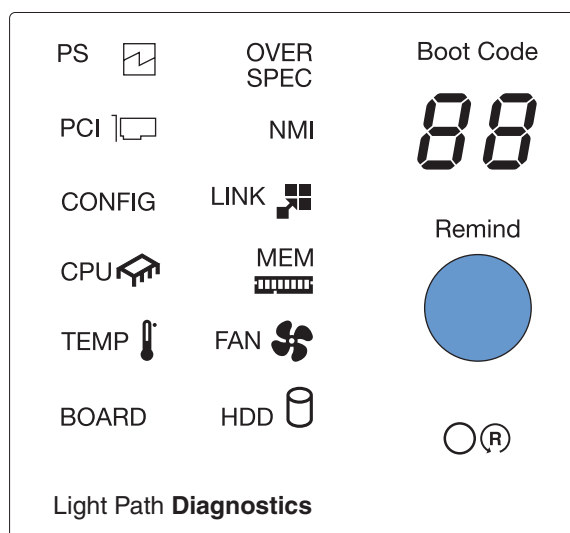
User response: Complete the following steps:

1. If the system was recently installed, moved, or serviced, make sure that the battery is properly seated.
2. Check the IBM support site for service bulletins or firmware updates that apply to this error.
3. Replace the CMOS battery.
4. Replace the system board.

Appendix B. Boot code display error codes

The boot code display area of the light path diagnostics panel provides an error code that indicates the point at which the system stopped during the boot block and POST. A boot code is either a byte or a word value that is produced by UEFI. This display will provide error codes in the event of a microprocessor error or a power fault. In addition to the IMM log, the codes can provide suggested components to be replaced.

The following is an illustration show the boot code display area on the light path diagnostics panel:



The following table lists the error codes that might display in the boot code display area that is associated with the integrated voltage regulator power faults or microprocessor failure events. Follow the action plan listed for the corresponding IMM events listed in this table to solve the problem. See the Appendix D, "Integrated management module II (IMM2) error messages," on page 337 for the corresponding IMM event ID and action plan to follow and correct the problem.

Table 28. System power faults

Boot code	Message	Potential defective component	Corresponding IMM Event ID	Corresponding IMM log message
01	5V_PGOOD	System Board	80070603-0701ffff	Sensor System VRD has transitioned to non-recoverable.
02	0_8VAUX_PGOOD	10G-T Card	80070603-0B01ffff	Sensor 10Gb-T VRD has transitioned to non-recoverable.
03	ENET_1_0VAUX_PGOOD	System Board	80070603-0701ffff	Sensor 10Gb-T VRD has transitioned to non-recoverable.
04	1_1V_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd VRD has transitioned to non-recoverable.

Table 28. System power faults (continued)

Boot code	Message	Potential defective component	Corresponding IMM Event ID	Corresponding IMM log message
05	1_2VAUX_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd VRD has transitioned to non-recoverable.
06	1_25VAUX_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd VRD has transitioned to non-recoverable.
07	1_5VAUX_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd VRD has transitioned to non-recoverable.
08	ENET_1_8VAUX_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd ENET VRD has transitioned to non-recoverable.
09	ENET_2_5VAUX_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd ENET VRD has transitioned to non-recoverable.
0A	3_3VAUX_PGOOD	System Board	80070603-0701ffff	Sensor System VRD has transitioned to non-recoverable.
0B	5VAUX_PGOOD	System Board	80070603-0701ffff	Sensor System VRD has transitioned to non-recoverable.
0C	2_5VAUX_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd VRD has transitioned to non-recoverable.
0D	PS_12V_PGOOD	System Board	80070603-2584ffff	Sensor Power Supply has transitioned to non-recoverable.
0E	PCH_1_5V_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd VRD has transitioned to non-recoverable.
0F	SAS_0_75V_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd SAS VRD has transitioned to non-recoverable.
10	SAS_1_0V_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd SAS VRD has transitioned to non-recoverable.
11	SAS_AVSO_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd SAS VRD has transitioned to non-recoverable.
12	SAS_1_5V_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd SAS VRD has transitioned to non-recoverable.
13	SAS_1_8V_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd SAS VRD has transitioned to non-recoverable.
14	3_3V_PGOOD	System Board	80070603-0701ffff	Sensor System VRD has transitioned to non-recoverable.

Table 28. System power faults (continued)

Boot code	Message	Potential defective component	Corresponding IMM Event ID	Corresponding IMM log message
16	ENET_1_5VAUX_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd ENET VRD has transitioned to non-recoverable.
17	DIMM_3_3VAUX_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd VRD has transitioned to non-recoverable.
18	MEM1A_VDDQ_PGOOD	System Board	80070603-0701ffff	Sensor DIMM 1-6 VRD has transitioned to non-recoverable.
19	MEM1B_VDDQ_PGOOD	System Board	80070603-0701ffff	Sensor DIMM 7-12 VRD has transitioned to non-recoverable.
1A	MEM2A_VDDQ_PGOOD	System Board	80070603-0701ffff	Sensor DIMM 13-18 VRD has transitioned to non-recoverable.
1B	MEM2B_VDDQ_PGOOD	System Board	80070603-0701ffff	Sensor DIMM 19-24 VRD has transitioned to non-recoverable.
1C	MEM3A_VDDQ_PGOOD	CPU/Memory Tray	80070603-2B01ffff	Sensor DIMM 25-30 VRD has transitioned to non-recoverable.
1D	MEM3B_VDDQ_PGOOD	CPU/Memory Tray	80070603-2B01ffff	Sensor DIMM 31-36 VRD has transitioned to non-recoverable.
1E	MEM4A_VDDQ_PGOOD	CPU/Memory Tray	80070603-2B01ffff	Sensor DIMM 37-42 VRD has transitioned to non-recoverable.
1F	MEM4B_VDDQ_PGOOD	CPU/Memory Tray	80070603-2B01ffff	Sensor DIMM 43-48 VRD has transitioned to non-recoverable.
20	OC_FAULT	System Board	80070603-0701ffff	Sensor System VRD has transitioned to non-recoverable.
28	CPU1_VCORE_PGOOD	System Board	80070603-0701ffff	Sensor CPU1 VRD has transitioned to non-recoverable.
29	CPU2_VCORE_PGOOD	System Board	80070603-0701ffff	Sensor CPU2 VRD has transitioned to non-recoverable.
2A	CPU3_VCORE_PGOOD	CPU/Memory Tray	80070603-2B01ffff	Sensor CPU3 VRD has transitioned to non-recoverable.
2B	CPU4_VCORE_PGOOD	CPU/Memory Tray	80070603-2B01ffff	Sensor CPU4 VRD has transitioned to non-recoverable.
2C	CPU1_VPLL_PGOOD	System Board	80070603-0701ffff	Sensor CPU1 VRD has transitioned to non-recoverable.

Table 28. System power faults (continued)

Boot code	Message	Potential defective component	Corresponding IMM Event ID	Corresponding IMM log message
2D	CPU2_VPLL_PGOOD	System Board	80070603-0701ffff	Sensor CPU2 VRD has transitioned to non-recoverable.
2E	CPU3_VPLL_PGOOD	CPU/Memory Tray	80070603-2B01ffff	Sensor CPU3 VRD has transitioned to non-recoverable.
2F	CPU4_VPLL_PGOOD	CPU/Memory Tray	80070603-2B01ffff	Sensor CPU4 VRD has transitioned to non-recoverable.
30	CPU1_VSA_PGOOD	System Board	80070603-0701ffff	Sensor CPU1 VRD has transitioned to non-recoverable.
31	CPU2_VSA_PGOOD	System Board	80070603-0701ffff	Sensor CPU2 VRD has transitioned to non-recoverable.
32	CPU3_VSA_PGOOD	CPU/Memory Tray	80070603-2B01ffff	Sensor CPU3 VRD has transitioned to non-recoverable.
33	CPU4_VSA_PGOOD	CPU/Memory Tray	80070603-2B01ffff	Sensor CPU4 VRD has transitioned to non-recoverable.
34	CPU1_VTT_PGOOD	System Board	80070603-0701ffff	Sensor CPU1 VRD has transitioned to non-recoverable.
35	CPU2_VTT_PGOOD	System Board	80070603-0701ffff	Sensor CPU2 VRD has transitioned to non-recoverable.
36	CPU3_VTT_PGOOD	CPU/Memory Tray	80070603-2B01ffff	Sensor CPU3 VRD has transitioned to non-recoverable.
37	CPU4_VTT_PGOOD	CPU/Memory Tray	80070603-2B01ffff	Sensor CPU4 VRD has transitioned to non-recoverable.
3E	ENET_1_2VAUX_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd ENET VRD has transitioned to non-recoverable.
3F	FPGA_CPU1_VTTAUX_PGOOD	System Board	80070603-0701ffff	Sensor MainBrd VRD has transitioned to non-recoverable.

Appendix C. DSA messages

As you run Dynamic System Analysis, text messages are displayed on the screen and are saved in the DSA event log. A diagnostic text message indicates that a problem has been detected and provides the action you should take as a result of the text message.

The following table describes the messages that the diagnostic programs might generate and suggested actions to correct the detected problems. Follow the suggested actions in the order in which they are listed in the column.

Table 29. DSA messages

<ul style="list-style-type: none">• Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.• See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU).• If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician.					
Message number	Component	Test	State	Description	Action
166-801-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C stopped. IMM returned an incorrect response length.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, “Troubleshooting,” on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none">1. Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM.2. After 45 seconds, reconnect the system to the power source and turn on the system.3. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA.4. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see “Updating the firmware” on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-802-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: the test cannot be completed for an unknown reason.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> • Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. • See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). • If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-803-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: the node is busy; try later.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, “Troubleshooting,” on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> 1. Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. 2. After 45 seconds, reconnect the system to the power source and turn on the system. 3. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. 4. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see “Updating the firmware” on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> • Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. • See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). • If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-804-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: invalid command.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> 1. Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. 2. After 45 seconds, reconnect the system to the power source and turn on the system. 3. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. 4. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-805-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: invalid command for the given LUN.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-806-xxx	MM2	IMM I ² C	Aborted	IMM I ² C test stopped: timeout while processing the command.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-807-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: out of space.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-808-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: reservation canceled or invalid reservation ID.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> • Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. • See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). • If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-809-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: request data was truncated.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, “Troubleshooting,” on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> 1. Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. 2. After 45 seconds, reconnect the system to the power source and turn on the system. 3. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. 4. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see “Updating the firmware” on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-810-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: request data length is invalid.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> • Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. • See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). • If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-811-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: request data field length limit is exceeded.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, “Troubleshooting,” on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> 1. Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. 2. After 45 seconds, reconnect the system to the power source and turn on the system. 3. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. 4. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see “Updating the firmware” on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-812-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C Test stopped a parameter is out of range.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-813-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: cannot return the number of requested data bytes.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-814-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: requested sensor, data, or record is not present.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-815-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: invalid data field in the request.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-816-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: the command is illegal for the specified sensor or record type.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> • Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. • See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). • If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-817-xxx	IMM2	IMM I ² C	Aborted	IMM I2C test stopped: a command response could not be provided.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, “Troubleshooting,” on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> 1. Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. 2. After 45 seconds, reconnect the system to the power source and turn on the system. 3. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. 4. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see “Updating the firmware” on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-818-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: cannot execute a duplicated request.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-819-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: a command response could not be provided; the SDR repository is in update mode.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-820-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: a command response could not be provided; the device is in firmware update mode.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-221-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: a command response could not be provided; IMM initialization is in progress.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-122-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: the destination is unavailable.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> • Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. • See Chapter 5, “Parts listing, System x3750 M4 Types 8722 and 8733,” on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). • If an action step is preceded by “(Trained service technician only),” that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-223-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: cannot execute the command; insufficient privilege level.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, “Troubleshooting,” on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> 1. Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. 2. After 45 seconds, reconnect the system to the power source and turn on the system. 3. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. 4. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see “Updating the firmware” on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-224-xxx	IMM2	IMM I ² C	Aborted	IMM I ² C test stopped: cannot execute the command.	<p>Note: Perform the actions one at a time and try the test after each action. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for more information about corrective actions.</p> <ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-901-xxx	IMM2	IMM I ² C	Failed	IMM indicates a failure in the RTMM bus (Bus 0)	<ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121. Run the test again. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for the corrective action.
166-902-xxx	IMM2	IMM I ² C	Failed	IMM indicates a failure in the TPM bus (Bus 1)	<ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121. Run the test again. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for the corrective action.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-903-xxx	IMM2	IMM I ² C	Failed	IMM indicates a failure in the Clock bus (Bus 2)	<ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121. Run the test again. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for the corrective action.
166-904-xxx	IMM2	IMM I ² C	Failed	IMM indicates a failure in the LED bus (Bus 3)	<ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121. Run the test again. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for the corrective action.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-905-xxx	IMM2	IMM I ² C	Failed	IMM indicates a failure in the Power Supply bus (Bus 4)	<ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121. Run the test again. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for the corrective action.
166-906-xxx	IMM2	IMM I ² C	Failed	IMM indicates a failure in the PCIe bus (Bus 5)	<ol style="list-style-type: none"> Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. After 45 seconds, reconnect the system to the power source and turn on the system. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121. Run the test again. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for the corrective action.

Table 29. DSA messages (continued)

<ul style="list-style-type: none"> Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved. See Chapter 5, "Parts listing, System x3750 M4 Types 8722 and 8733," on page 189 to determine which components are customer replaceable units (CRU) and which components are field replaceable units (FRU). If an action step is preceded by "(Trained service technician only)," that step must be performed only by a Trained service technician. 					
Message number	Component	Test	State	Description	Action
166-908-xxx	IMM2	IMM I ² C	Failed	IMM indicates a failure in the DASD bus (Bus 7).	<ol style="list-style-type: none"> 1. Turn off the system and disconnect it from the power source. You must disconnect the system from ac power to reset the IMM. 2. After 45 seconds, reconnect the system to the power source and turn on the system. 3. Make sure that the DSA code is at the latest level. For the latest level of DSA code, go to http://www.ibm.com/support/docview.wss?uid=psg1SERV-DSA. 4. Make sure that the IMM firmware is at the latest level. The installed firmware level can be found at http://www.ibm.com/support/docview.wss?uid=psg1MIGR-4JTS2T. For more information, see "Updating the firmware" on page 121. 5. Run the test again. 6. If the failure remains, see Chapter 4, "Troubleshooting," on page 143 for the corrective action.

Appendix D. Integrated management module II (IMM2) error messages

When a hardware event is detected by the IMM on the server, the IMM logs that event in the system-event log in the server.

For each event code, the following fields are displayed:

Event identifier

A hexadecimal identifier that uniquely identifies an event or class of events. In this documentation, the event identifiers are prefixed with 0x and followed by eight characters.

Event description

The logged message string that appears for an event. When the event string is displayed in the system-event log, information such as a specific component is displayed. In this documentation, that additional information appears as variables, such as [arg1] or [arg2].

Explanation

Additional information to explain why the event occurred.

Severity

An indication of the level of concern for the condition. In the system-event log, severity is abbreviated to the first character. The following severities can be displayed.

Info: The event was recorded for audit purposes, usually a user action or a change of states that is normal behavior.

Warning:

The event is not as severe as an error, but if possible, the condition should be corrected before it becomes an error. It might also be a condition that requires additional monitoring or maintenance.

Error: The event is a failure or critical condition that impairs service or an expected function.

Alert Category

Similar events are grouped together in categories. The alert category is in the following format:

severity - device

severity is one of the following severity levels:

- **Critical:** A key component in the server is no longer functioning.
- **Warning:** The event might progress to a critical level.
- **System:** The event is the result of a system error or a configuration change.

device is the specific device in the server that caused the event to be generated.

Serviceable

Whether user action is required to correct the problem.

CIM Information

The prefix of the message ID and the sequence number that is used by the CIM message registry.

SNMP Trap ID

The SNMP trap ID that is found in the SNMP alert management information base (MIB).

Automatically contact Service

If this field is set to **Yes**, and you have enabled Electronic Service Agent™ (ESA), IBM Support will be notified automatically if the event is generated.

While you wait for IBM Support to call, you can perform the recommended actions for the event.

User response

The actions that you should perform to solve the event.

Perform the steps listed in this section in the order shown until the problem is solved. After you perform all of the actions that are described in this field, if you cannot solve the problem, contact IBM Support.

Note: This list includes error codes and messages that might not apply to this machine type and model.

The following is the list of IMM2 error messages and suggested actions to correct the detected server problems. For more information about IMM2, see the *Integrated Management Module II User's Guide* at <http://www.ibm.com/support/entry/portal/docdisplay?lnocid=MIGR-5089484>.

**40000001-00000000 Management Controller [arg1]
Network Initialization Complete.**

Explanation: The IMM network subsystem initialization has completed.

Severity: Info

Alert Category: System - IMM Network event

Serviceable: No

CIM Information: Prefix: IMM and ID: 0001

SNMP Trap ID: 37

Automatically notify Support: No

User response: Information only; no action is required.

Serviceable: No

CIM Information: Prefix: IMM and ID: 0002

SNMP Trap ID: 22

Automatically notify Support: No

User response: Make sure that the certificate that you are importing is correct and properly generated.

**40000002-00000000 Certificate Authority [arg1] has
detected a [arg2] Certificate Error.**

Explanation: A problem has occurred with the SSL Server, SSL Client, or SSL Trusted CA certificate that has been imported into the IMM. The imported certificate must contain a public key that corresponds to the key pair that was previously generated by the **Generate a New Key and Certificate Signing Request** link.

Severity: Error

Alert Category: System - other

**40000003-00000000 Ethernet Data Rate modified
from [arg1] to [arg2] by user [arg3].**

Explanation: The specified user has changed the Ethernet data rate of the Integrated Management Module external network interface to the specified value.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0003

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000004-00000000 Ethernet Duplex setting modified from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the Ethernet duplex setting of the Integrated Management Module external network interface to the specified value.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0004

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000005-00000000 Ethernet MTU setting modified from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the Ethernet maximum transmission unit (MTU) setting of the Integrated Management Module external network interface to the specified value.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0005

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000006-00000000 Ethernet locally administered MAC address modified from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the Ethernet locally administered MAC address of the Integrated Management Module external network interface to the specified value

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0006

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000007-00000000 Ethernet interface [arg1] by user [arg2].

Explanation: The specified user has enabled or disabled the Ethernet interface.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0007

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000008-00000000 Hostname set to [arg1] by user [arg2].

Explanation: The specified user has changed the Integrated Management Module host name.

Severity: Info

Alert Category: System - IMM Network event

Serviceable: No

CIM Information: Prefix: IMM and ID: 0008

SNMP Trap ID: 37

Automatically notify Support: No

User response: Information only; no action is required.

40000009-00000000 IP address of network interface modified from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the IP address of the Integrated Management Module external network interface to the specified value.

Severity: Info

Alert Category: System - IMM Network event

Serviceable: No

CIM Information: Prefix: IMM and ID: 0009

SNMP Trap ID: 37

Automatically notify Support: No

User response: Information only; no action is required.

4000000a-00000000 IP subnet mask of network interface modified from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the subnet mask of the Integrated Management Module external network interface to the specified value.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0010

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000000b-00000000 IP address of default gateway modified from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the gateway address of the Integrated Management Module external network interface to the specified value.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0011

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000000c-00000000 OS Watchdog response [arg1] by [arg2] .

Explanation: This message is for the use case where an OS Watchdog has been enabled or disabled by a user.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0012

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000000d-00000000 DHCP[[arg1]] failure, no IP address assigned.

Explanation: A DHCP server has failed to assign an IP address to the IMM.

Severity: Warning

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0013

SNMP Trap ID:

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Make sure that the IMM network cable is connected.
2. Make sure that there is a DHCP server on the network that can assign an IP address to the IMM.

4000000e-00000000 Remote Login Successful. Login ID: [arg1] from [arg2] at IP address [arg3].

Explanation: The specified user has logged in to the Integrated Management Module.

Severity: Info

Alert Category: System - Remote Login

Serviceable: No

CIM Information: Prefix: IMM and ID: 0014

SNMP Trap ID: 30

Automatically notify Support: No

User response: Information only; no action is required.

4000000f-00000000 Attempting to [arg1] server [arg2] by user [arg3].

Explanation: This message is for the use case where a user is using the Management Controller to perform a power function on the system.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0015

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000010-00000000 Security: Userid: [arg1] had [arg2] login failures from WEB client at IP address [arg3].

Explanation: A user has exceeded the maximum allowed number of unsuccessful login attempts from a web browser and has been prevented from logging in for the lockout period.

Severity: Warning

Alert Category: System - Remote Login

Serviceable: No

CIM Information: Prefix: IMM and ID: 0016

SNMP Trap ID: 30

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Make sure that the correct login ID and password are being used.
2. Have the system administrator reset the login ID or password.

40000011-00000000 Security: Login ID: [arg1] had [arg2] login failures from CLI at [arg3].

Explanation: A user has exceeded the maximum allowed number of unsuccessful login attempts from the command-line interface and has been prevented from logging in for the lockout period.

Severity: Warning

Alert Category: System - Remote Login

Serviceable: No

CIM Information: Prefix: IMM and ID: 0017

SNMP Trap ID: 30

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Make sure that the correct login ID and password are being used.
2. Have the system administrator reset the login ID or password.

40000012-00000000 Remote access attempt failed.
Invalid userid or password received.
Userid is [arg1] from WEB browser at IP address [arg2].

Explanation: A user has attempted to log in from a web browser by using an invalid login ID or password.

Severity: Info

Alert Category: System - Remote Login

Serviceable: No

CIM Information: Prefix: IMM and ID: 0018

SNMP Trap ID: 30

Automatically notify Support: No

User response: Make sure that the correct login ID and password are being used.

40000013-00000000 Remote access attempt failed.
Invalid userid or password received.
Userid is [arg1] from TELNET client at IP address [arg2].

Explanation: A user has attempted to log in from a Telnet session by using an invalid login ID or password.

Severity: Info

Alert Category: System - Remote Login

Serviceable: No

CIM Information: Prefix: IMM and ID: 0019

SNMP Trap ID: 30

Automatically notify Support: No

User response: Make sure that the correct login ID and password are being used.

40000014-00000000 The [arg1] on system [arg2] cleared by user [arg3].

Explanation: The specified user has deleted system log events or audit log events.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0020

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000015-00000000 Management Controller [arg1] reset was initiated by user [arg2].

Explanation: The Integrated Management Module has been reset. The logs provide additional details.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0021

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000016-00000000 ENET[[arg1]] DHCP-HSTN=[arg2], DN=[arg3], IP@=[arg4], SN=[arg5], GW@=[arg6], DNS1@=[arg7] .

Explanation: The DHCP server has assigned an IMM IP address and configuration.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0022

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000017-00000000 ENET[[arg1]] IP-Cfg:HstName=[arg2], IP@=[arg3], NetMsk=[arg4], GW@=[arg5] .

Explanation: An IMM IP address and configuration have been assigned using client data.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0023

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000018-00000000 LAN: Ethernet[[arg1]] interface is no longer active.

Explanation: The IMM Ethernet interface has been disabled.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0024

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000019-00000000 LAN: Ethernet[[arg1]] interface is now active.

Explanation: The IMM Ethernet interface has been enabled.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0025

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000001a-00000000 DHCP setting changed to [arg1] by user [arg2].

Explanation: The specified user has changed the DHCP setting of the Integrated Management Module external network interface.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0026

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000001b-00000000 Management Controller [arg1]: Configuration restored from a file by user [arg2].

Explanation: The specified user has restored the Integrated Management Module (IMM) configuration from a previously saved configuration file. Some configuration settings might require that the IMM be restarted before they take effect.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0027

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000001c-00000000 Watchdog [arg1] Screen Capture Occurred .

Explanation: An operating-system error has occurred, and the screen capture was successful.

Severity: Info

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and ID: 0028

SNMP Trap ID: 22

Automatically notify Support: No

User response: If there was no operating-system error, complete the following steps until the problem is solved:

1. Reconfigure the watchdog timer to a higher value.
2. Make sure that the IMM Ethernet-over-USB interface is enabled.
3. Reinstall the RNDIS or cdc_ether device driver for the operating system.
4. Disable the watchdog.

If there was an operating-system error, check the integrity of the installed operating system.

4000001d-00000000 Watchdog [arg1] Failed to Capture Screen.

Explanation: An operating-system error has occurred, and the screen capture failed.

Severity: Error

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and ID: 0029

SNMP Trap ID: 22

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Reconfigure the watchdog timer to a higher value.
2. Make sure that the IMM Ethernet over USB interface is enabled.
3. Reinstall the RNDIS or cdc_ether device driver for the operating system.
4. Disable the watchdog.
5. Check the integrity of the installed operating system.
6. Update the IMM firmware. **Important:** Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

4000001e-00000000 Running the backup Management Controller [arg1] main application.

Explanation: The IMM was unable to run the primary IMM image and has resorted to running the backup image.

Severity: Warning

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and ID: 0030

SNMP Trap ID: 22

Automatically notify Support: No

User response: Update the IMM firmware. **Important:** Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

4000001f-00000000 Please ensure that the Management Controller [arg1] is flashed with the correct firmware. The Management Controller is unable to match its firmware to the server.

Explanation: The server does not support the installed IMM firmware version.

Severity: Error

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and ID: 0031

SNMP Trap ID: 22

Automatically notify Support: No

User response: Update the IMM firmware to a version that the server supports. **Important:** Some cluster solutions require specific code levels or coordinated code updates. If the device is part of a cluster solution, verify that the latest level of code is supported for the cluster solution before you update the code.

40000020-00000000 Management Controller [arg1] Reset was caused by restoring default values.

Explanation: The default configuration has been restored to the Integrated Management Module.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0032

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000021-00000000 Management Controller [arg1] clock has been set from NTP server [arg2].

Explanation: The IMM clock has been set to the date and time that are provided by the Network Time Protocol server.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0033

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000022-00000000 SSL data in the Management Controller [arg1] configuration data is invalid. Clearing configuration data region and disabling SSL.

Explanation: There is a problem with the certificate that has been imported into the IMM. The imported certificate must contain a public key that corresponds to the key pair that was previously generated through the "Generate a New Key and Certificate Signing Request" link.

Severity: Error

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and ID: 0034

SNMP Trap ID: 22

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Make sure that the certificate that you are importing is correct.
2. Try to import the certificate again.

40000023-00000000 Flash of [arg1] from [arg2] succeeded for user [arg3].

Explanation: The specified firmware update has been completed.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0035

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000024-00000000 Flash of [arg1] from [arg2] failed for user [arg3].

Explanation: The specified firmware has not been updated.

Severity: Info

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and ID: 0036

SNMP Trap ID: 22

Automatically notify Support: No

User response: Information only; no action is required.

40000025-00000000 The [arg1] on system [arg2] is 75% full.

Explanation: The IMM event log is 75% full. When the event log is completely full, the new entries will overwrite the oldest entries. To avoid losing older log entries, save the log as a text file and clear the log.

Severity: Info

Alert Category: System - Event Log Fullness

Serviceable: No

CIM Information: Prefix: IMM and ID: 0037

SNMP Trap ID: 35

Automatically notify Support: No

User response: Information only; no action is required.

40000026-00000000 The [arg1] on system [arg2] is 100% full.

Explanation: The IMM event log is full. New entries in the log will overwrite the oldest entries. To avoid losing older log entries, save the log as a text file and clear the log.

Severity: Info

Alert Category: System - Event Log Fullness

Serviceable: No

CIM Information: Prefix: IMM and ID: 0038

SNMP Trap ID: 35

Automatically notify Support: No

User response: To avoid losing older log entries, save the log as a text file and clear the log.

40000027-00000000 Platform Watchdog Timer expired for [arg1].

Explanation: A “Platform Watchdog Timer Expired” event has occurred.

Severity: Error

Alert Category: System - OS Timeout

Serviceable: No

CIM Information: Prefix: IMM and ID: 0039

SNMP Trap ID: 21

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Reconfigure the watchdog timer to a higher value.
2. Make sure that the IMM Ethernet-over-USB interface is enabled.
3. Reinstall the RNDIS or cdc_ether device driver for the operating system.
4. Disable the watchdog.
5. Check the integrity of the installed operating system.

40000028-00000000 Management Controller Test Alert Generated by [arg1].

Explanation: The Integrated Management Module has sent a test message to help verify connectivity.

Severity: Info

Alert Category: System - other

Serviceable: No

CIM Information: Prefix: IMM and ID: 0040

SNMP Trap ID: 22

Automatically notify Support: No

User response: Information only; no action is required.

40000029-00000000 Security: Userid: [arg1] had [arg2] login failures from an SSH client at IP address [arg3].

Explanation: A user has exceeded the maximum number of unsuccessful login attempts from SSH and has been prevented from logging in for the lockout period.

Severity: Info

Alert Category: System - Remote Login

Serviceable: No

CIM Information: Prefix: IMM and ID: 0041

SNMP Trap ID: 30

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Make sure that the correct login ID and password are being used.
2. Have the system administrator reset the login ID or password.

4000002a-00000000 [arg1] firmware mismatch internal to system [arg2]. Please attempt to flash the [arg3] firmware.

Explanation: A specific type of firmware mismatch has been detected.

Severity: Error

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: IMM and ID: 0042

SNMP Trap ID: 22

Automatically notify Support: No

User response: Reflash the IMM firmware to the latest version.

4000002b-00000000 Domain name set to [arg1].

Explanation: Domain name set by user

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0043

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000002c-00000000 Domain Source changed to [arg1] by user [arg2].

Explanation: Domain source changed by user

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0044

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000002d-00000000 DDNS setting changed to [arg1] by user [arg2].

Explanation: DDNS setting changed by user

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0045

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000002e-00000000 DDNS registration successful. The domain name is [arg1].

Explanation: The DDNS registration was successful.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0046

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000002f-00000000 IPv6 enabled by user [arg1] .

Explanation: The specified user has enabled IPv6 support on the Integrated Management Module.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0047

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000030-00000000 IPv6 disabled by user [arg1] .

Explanation: The specified user has disabled IPv6 support on the Integrated Management Module.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0048

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000031-00000000 IPv6 static IP configuration enabled by user [arg1].

Explanation: The specified user has enabled IPv6 static address assignment on the Integrated Management Module.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0049

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000032-00000000 IPv6 DHCP enabled by user [arg1].

Explanation: The specified user has enabled DHCPv6 on the Integrated Management Module.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0050

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000033-00000000 IPv6 stateless auto-configuration enabled by user [arg1].

Explanation: IPv6 stateless address auto-configuration has been enabled on the Integrated Management Module by the specified user.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0051

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000034-00000000 IPv6 static IP configuration disabled by user [arg1].

Explanation: The specified user has disabled IPv6 static address assignment on the Integrated Management Module.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0052

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000035-00000000 IPv6 DHCP disabled by user [arg1].

Explanation: The specified user has disabled DHCPv6 on the Integrated Management Module.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0053

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000036-00000000 IPv6 stateless auto-configuration disabled by user [arg1].

Explanation: IPv6 stateless address auto-configuration has been disabled on the Integrated Management Module by the specified user.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0054

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000037-00000000 ENET[[arg1]] IPv6-LinkLocal:HstName=[arg2], IP@=[arg3], Pref=[arg4] .

Explanation: The IPv6 link-local address is active.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0055

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000038-00000000 ENET[[arg1]] IPv6-Static:HstName=[arg2], IP@=[arg3], Pref=[arg4], GW@=[arg5].

Explanation: The IPv6 static address is active.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0056

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000039-00000000 ENET[[arg1]] DHCPv6-HSTN=[arg2], DN=[arg3], IP@=[arg4], Pref=[arg5].

Explanation: The IPv6 DHCP-assigned address is active.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0057

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000003a-00000000 IPv6 static address of network interface modified from [arg1] to [arg2] by user [arg3].

Explanation: A user modifies the IPv6 static address of a Management Controller

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0058

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000003b-00000000 DHCPv6 failure, no IP address assigned.

Explanation: The DHCPv6 server has failed to assign an IP address to a management controller.

Severity: Warning

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0059

SNMP Trap ID:

Automatically notify Support: No

User response: Complete the following steps until the problem is solved:

1. Make sure that the IMM network cable is connected.
2. Make sure that there is a DHCP6 server on the network that can assign an IP address to the IMM.

4000003c-00000000 Platform Watchdog Timer expired for [arg1].

Explanation: IMM has detected an OS did not start in the expected amount of time.

Severity: Error

Alert Category: System - Loader timeout

Serviceable: No

CIM Information: Prefix: IMM and ID: 0060

SNMP Trap ID: 26

Automatically notify Support: No

User response:

1. Reconfigure the watchdog timer to a higher value.
2. Make sure that the IMM Ethernet over USB interface is enabled.

3. Reinstall the RNDIS or cdc_ether device driver for the operating system.
4. Disable the watchdog.
5. Check the integrity of the installed operating system

4000003d-00000000 Telnet port number changed from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the Telnet port number.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0061

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000003e-00000000 SSH port number changed from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the Secure Shell (SSH) port number.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0062

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000003f-00000000 Web-HTTP port number changed from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the HTTP port number. New HTTP (web) connections must use the new port number.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0063

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000040-00000000 Web-HTTPS port number changed from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the HTTPS port number. New HTTPS (secure web) connections must use the new port number.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0064

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000041-00000000 CIM/XML HTTP port number changed from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the CIM HTTP port number.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0065

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000042-00000000 CIM/XML HTTPS port number changed from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the CIM HTTPS port number.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0066

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000043-00000000 SNMP Agent port number changed from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the Simple Network Management Protocol (SNMP) agent port number.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0067

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000044-00000000 SNMP Traps port number changed from [arg1] to [arg2] by user [arg3].

Explanation: The specified user has changed the Simple Network Management Protocol (SNMP) traps port number.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0068

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000045-00000000 Syslog port number changed from [arg1] to [arg2] by user [arg3].

Explanation: A user has modified the Syslog receiver port number

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0069

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000046-00000000 Remote Presence port number changed from [arg1] to [arg2] by user [arg3].

Explanation: A user has modified the Remote Presence port number

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0070

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000047-00000000 LED [arg1] state changed to [arg2] by [arg3].

Explanation: The specified LED has changed state.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0071

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000048-00000000 Inventory data changed for device [arg1], new device data hash=[arg2], new master data hash=[arg3] .

Explanation: Something has caused the physical inventory to change

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0072

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000049-00000000 SNMP [arg1] enabled by user [arg2] .

Explanation: The specified user has enabled the SNMPv1 or SNMPv3 agent.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0073

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000004a-00000000 SNMP [arg1] disabled by user [arg2] .

Explanation: The specified user has disabled the SNMPv1 or SNMPv3 agent.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0074

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000004b-00000000 SNMPv1 [arg1] set by user [arg2]: Name=[arg3], AccessType=[arg4], Address=[arg5], .

Explanation: A user changed the SNMP community string

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0075

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000004c-00000000 LDAP Server configuration set by user [arg1]: SelectionMethod=[arg2], DomainName=[arg3], Server1=[arg4], Server2=[arg5], Server3=[arg6], Server4=[arg7].

Explanation: A user changed the LDAP server configuration

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0076

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000004d-00000000 LDAP set by user [arg1]:
 RootDN=[arg2],
 UIDSearchAttribute=[arg3],
 BindingMethod=[arg4],
 EnhancedRBS=[arg5],
 TargetName=[arg6], GroupFilter=[arg7],
 GroupAttribute=[arg8],
 LoginAttribute=[arg9].

Explanation: A user configured an LDAP Miscellaneous setting

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0077

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000004e-00000000 Serial Redirection set by user [arg1]: Mode=[arg2], BaudRate=[arg3], StopBits=[arg4], Parity=[arg5], SessionTerminateSequence=[arg6].

Explanation: A user configured the Serial Port mode

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0078

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000004f-00000000 Date and Time set by user [arg1]:
 Date=[arg2], Time=[arg3], DST
 Auto-adjust=[arg4], Timezone=[arg5].

Explanation: The specified user has changed the date and time in the Integrated Management Module.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0079

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000050-00000000 Server General Settings set by user [arg1]: Name=[arg2], Contact=[arg3], Location=[arg4], Room=[arg5], RackID=[arg6], Rack U-position=[arg7].

Explanation: A user configured the Location setting

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0080

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000051-00000000 Server Power Off Delay set to [arg1] by user [arg2].

Explanation: A user configured the Server Power Off Delay

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0081

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000052-00000000 Server [arg1] scheduled for [arg2] at [arg3] by user [arg4].

Explanation: A user configured a Server Power action at a specific time

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0082

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000053-00000000 Server [arg1] scheduled for every [arg2] at [arg3] by user [arg4].

Explanation: A user configured a recurring Server Power Action

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0083

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000054-00000000 Server [arg1] [arg2] cleared by user [arg3].

Explanation: A user cleared a Server Power Action.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0084

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000055-00000000 Synchronize time setting by user [arg1]: Mode=[arg2], NTPServerHost=[arg3]:[arg4],NTPUpdateFrequency=[arg5].

Explanation: A user configured the Date and Time synchronize settings

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0085

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000056-00000000 SMTP Server set by user [arg1] to [arg2]:[arg3].

Explanation: A user configured the SMTP server

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0086

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000057-00000000 Telnet [arg1] by user [arg2].

Explanation: The specified user has enabled or disabled Telnet.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0087

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000058-00000000 DNS servers set by user [arg1]: UseAdditionalServers=[arg2], PreferredDNStype=[arg3], IPv4Server1=[arg4], IPv4Server2=[arg5], IPv4Server3=[arg6], IPv6Server1=[arg7], IPv6Server2=[arg8], IPv6Server3=[arg9].

Explanation: The specified user has configured the DNS servers.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0088

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000059-00000000 LAN over USB [arg1] by user [arg2].

Explanation: A user configured USB-LAN

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0089

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000005a-00000000 LAN over USB Port Forwarding set by user [arg1]: ExternalPort=[arg2], USB-LAN port=[arg3].

Explanation: A user configured USB-LAN port forwarding

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0090

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000005b-00000000 Secure Web services (HTTPS) [arg1] by user [arg2].

Explanation: A user enables or disables Secure web services

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0091

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000005c-00000000 Secure CIM/XML(HTTPS) [arg1] by user [arg2].

Explanation: The secure CIM-XML port has been enabled or disabled.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0092

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000005d-00000000 Secure LDAP [arg1] by user [arg2].

Explanation: A user enables or disables Secure LDAP services

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0093

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000005e-00000000 SSH [arg1] by user [arg2].

Explanation: The specified user has enabled or disabled the Secure Shell (SSH) service.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0094

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000005f-00000000 Server timeouts set by user [arg1]: EnableOSWatchdog=[arg2], OSWatchdogTimeout=[arg3], EnableLoaderWatchdog=[arg4], LoaderTimeout=[arg5].

Explanation: A user configures Server Timeouts

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0095

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000060-00000000 License key for [arg1] added by user [arg2].

Explanation: A Integrated Management Module license that allows access to the specified feature was added to the system.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0096

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000061-00000000 License key for [arg1] removed by user [arg2].

Explanation: The specified user has removed an Integrated Management Module license. Access to the specified feature is no longer allowed.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0097

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000062-00000000 Global Login General Settings set by user [arg1]:
AuthenticationMethod=[arg2],
LockoutPeriod=[arg3],
SessionTimeout=[arg4].

Explanation: A user changes the Global Login General Settings

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0098

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000063-00000000 Global Login Account Security set by user [arg1]:
PasswordRequired=[arg2],
PasswordExpirationPeriod=[arg3],
MinimumPasswordReuseCycle=[arg4],
MinimumPasswordLength=[arg5],
MinimumPasswordChangeInterval=[arg6],
MaxmumLoginFailures=[arg7],
LockoutAfterMaxFailures=[arg8],
MinimumDifferentCharacters=[arg9],
DefaultIDExpired=[arg10],
ChangePasswordFirstAccess=[arg11].

Explanation: A user changes the Global Login Account Security Settings to Legacy

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0099

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000064-00000000 User [arg1] created.

Explanation: A user account has been created.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0100

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000065-00000000 User [arg1] removed.

Explanation: A user account has been removed.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0101

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000066-00000000 User [arg1] password modified.

Explanation: The password for the specified user account has been changed.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0102

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000067-00000000 User [arg1] role set to [arg2].

Explanation: A user account role assigned

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0103

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000068-00000000 User [arg1] custom privileges set: [arg2].

Explanation: User account privileges assigned

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0104

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000069-00000000 User [arg1] for SNMPv3 set: AuthenticationProtocol=[arg2], PrivacyProtocol=[arg3], AccessType=[arg4], HostforTraps=[arg5].

Explanation: User account SNMPv3 settings changed

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0105

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000006a-00000000 SSH Client key added for user [arg1].

Explanation: User locally defined an SSH Client key

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0106

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000006b-00000000 SSH Client key imported for user [arg1] from [arg2].

Explanation: User imported an SSH Client key

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0107

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000006c-00000000 SSH Client key removed from user [arg1].

Explanation: User removed an SSH Client key

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0108

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000006d-00000000 Management Controller [arg1]:
Configuration saved to a file by user [arg2].

Explanation: A user saves a Management Controller configuration to a file.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0109

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000006e-00000000 Alert Configuration Global Event
Notification set by user [arg1]:
RetryLimit=[arg2], RetryInterval=[arg3],
EntryInterval=[arg4].

Explanation: A user changes the Global Event Notification settings.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0110

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000006f-00000000 Alert Recipient Number [arg1]
updated: Name=[arg2],
DeliveryMethod=[arg3], Address=[arg4],
IncludeLog=[arg5], Enabled=[arg6],
EnabledAlerts=[arg7],
AllowedFilters=[arg8].

Explanation: The specified user has changed or reset the remote alert recipient configuration.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0111

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000070-00000000 SNMP Traps enabled by user
[arg1]: EnabledAlerts=[arg2],
AllowedFilters=[arg3] .

Explanation: The specified user has enabled Simple Network Management Protocol (SNMP) traps.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0112

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000071-00000000 The power cap value changed
from [arg1] watts to [arg2] watts by user [arg3].

Explanation: The power capping level has been changed.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0113

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required

40000072-00000000 The minimum power cap value
changed from [arg1] watts to [arg2]
watts.

Explanation: The minimum power cap value has been changed.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0114

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000073-00000000 The maximum power cap value changed from [arg1] watts to [arg2] watts.

Explanation: The maximum power cap value has been changed.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0115

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000074-00000000 The soft minimum power cap value changed from [arg1] watts to [arg2] watts.

Explanation: The soft minimum power cap value has been changed.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0116

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000075-00000000 The measured power value exceeded the power cap value.

Explanation: The measured power value has exceeded the power cap value.

Severity: Warning

Alert Category: Warning - Power

Serviceable: No

CIM Information: Prefix: IMM and ID: 0117

SNMP Trap ID: 164

Automatically notify Support: No

User response:

- Make sure IMM firmware is at the latest level.
- Raise the system power cap value or adjust the system workload to be less than the currently applied power cap.

40000076-00000000 The new minimum power cap value exceeded the power cap value.

Explanation: Minimum Power Cap exceeds Power Cap

Severity: Warning

Alert Category: Warning - Power

Serviceable: No

CIM Information: Prefix: IMM and ID: 0118

SNMP Trap ID: 164

Automatically notify Support: No

User response: User may need to adjust the power cap value to be greater or equal to the minimum power cap.

40000077-00000000 Power capping was activated by user [arg1].

Explanation: The power capping control has been enabled.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0119

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000078-00000000 Power capping was deactivated by user [arg1].

Explanation: The power capping control has been enabled.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0120

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000079-00000000 Static Power Savings mode has been turned on by user [arg1].

Explanation: Static Power Savings mode turned on by user

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0121

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000007a-00000000 Static Power Savings mode has been turned off by user [arg1].

Explanation: Static Power Savings mode turned off by user

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0122

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000007b-00000000 Dynamic Power Savings mode has been turned on by user [arg1].

Explanation: Dynamic Power Savings mode turned on by user

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0123

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000007c-00000000 Dynamic Power Savings mode has been turned off by user [arg1].

Explanation: Dynamic Power Savings mode turned off by user

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0124

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000007d-00000000 Power cap and external throttling occurred.

Explanation: Power cap and external throttling has occurred.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0125

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000007e-00000000 External throttling occurred.

Explanation: External throttling has occurred.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0126

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

4000007f-00000000 Power cap throttling occurred.

Explanation: Power cap throttling has occurred.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0127

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000080-00000000 Remote Control session started by user [arg1] in [arg2] mode.

Explanation: Remote Control session started

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0128

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

40000082-00000000 The measured power value has returned below the power cap value.

Explanation: The measured power value has returned below the power cap value.

Severity: Info

Alert Category: Warning - Power

Serviceable: No

CIM Information: Prefix: IMM and ID: 0130

SNMP Trap ID: 164

Automatically notify Support: No

User response: Information only; no action is required.

40000083-00000000 The new minimum power cap value has returned below the power cap value.

Explanation: The new minimum power cap value has returned below the power cap value.

Severity: Info

Alert Category: Warning - Power

Serviceable: No

CIM Information: Prefix: IMM and ID: 0131

SNMP Trap ID: 164

Automatically notify Support: No

User response: Information only; no action is required.

40000084-00000000 IMM firmware mismatch between nodes [arg1] and [arg2]. Please attempt to flash the IMM firmware to the same level on all nodes.

Explanation: A mismatch of IMM firmware between nodes has been detected.

Severity: Error

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: IMM and ID: 0132

SNMP Trap ID: 22

Automatically notify Support: No

User response: Attempt to flash the IMM firmware to the same level on all nodes.

40000085-00000000 FPGA firmware mismatch between nodes [arg1] and [arg2]. Please attempt to flash the FPGA firmware to the same level on all nodes.

Explanation: A mismatch of FPGA firmware between nodes has been detected.

Severity: Error

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: IMM and ID: 0133

SNMP Trap ID: 22

Automatically notify Support: No

User response: Attempt to flash the FPGA firmware to the same level on all nodes.

40000086-00000000 Test Call Home Generated by user [arg1].

Explanation: The specified user has generated a test automatic support notification.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0134

SNMP Trap ID:

Automatically notify Support: Yes

User response: Information only; no action is required.

40000087-00000000 Manual Call Home by user [arg1]: [arg2].

Explanation: The specified user has submitted a service request.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0135

SNMP Trap ID:

Automatically notify Support: Yes

User response: IBM Support will address the problem.

40000088-00000000 Management Controller [arg1]:
Configuration restoration from a file by
user [arg2] completed.

Explanation: The specified user has successfully
restored the configuration of the specified management
controller from a file.

Severity: Info

Alert Category: none

Serviceable: No

CIM Information: Prefix: IMM and ID: 0136

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is
required.

40000089-00000000 Management Controller [arg1]:
Configuration restoration from a file by
user [arg2] failed to complete.

Explanation: Restoration of the configuration of the
specified management controller from a file by the
specified user has not been completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: IMM and ID: 0137

SNMP Trap ID: 22

Automatically notify Support: No

User response:

1. Turn off the server and disconnect it from the
power source. You must disconnect the server from
ac power to reset the IMM.
2. After 45 seconds, reconnect the server to the power
source and turn on the server.
3. Retry the operation

4000008a-00000000 Management Controller [arg1]:
Configuration restoration from a file by
user [arg2] failed to start.

Explanation: Restoration of the configuration of the
specified management controller from a file by the
specified user has failed to start.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: IMM and ID: 0138

SNMP Trap ID: 22

Automatically notify Support: No

User response:

1. Turn off the server and disconnect it from the
power source. You must disconnect the server from
ac power to reset the IMM.
2. After 45 seconds, reconnect the server to the power
source and turn on the server.
3. Retry the operation

4000008b-00000000 One or more of the Storage
Management IP addresses has changed.

Explanation: This message is for the use case where
an IP address for the Storage Management has changed

Severity: Info

Alert Category: System - IMM Network event

Serviceable: No

CIM Information: Prefix: IMM and ID: 0139

SNMP Trap ID: 37

Automatically notify Support: No

User response: Information only; no action is
required.

80010002-2801ffff Numeric sensor
[NumericSensorElementName] going
low (lower non-critical) has asserted.

Explanation: The CMOS battery voltage has dropped
below its specified threshold.

Severity: Warning

Alert Category: Warning - Voltage

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0476

SNMP Trap ID: 13

Automatically notify Support: No

User response: Replace the CMOS battery.

80010202-0701ffff Numeric sensor
[NumericSensorElementName] going
low (lower critical) has asserted.

Explanation: A Voltage has dropped below its
specified threshold (sensor Planar 12V, Planar 3.3V, or
Planar 5V).

Severity: Error

Alert Category: Critical - Voltage

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0480

SNMP Trap ID: 1

Automatically notify Support: Yes

User response:

- (Trained service technician only) If the specified sensor is Planar 3.3V or Planar 5V, replace the system board.
- If the specified sensor is Planar 12V, check the IMM event log for power-supply-related issues, and resolve those issues. If the problem remains, (trained service technician only) replace the system board.

80010202-2801ffff **Numeric sensor**
[NumericSensorElementName] going
low (lower critical) has asserted.

Explanation: The CMOS battery voltage has dropped below its specified threshold.

Severity: Error

Alert Category: Critical - Voltage

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0480

SNMP Trap ID: 1

Automatically notify Support: Yes

User response: Replace the CMOS battery.

80010204-1d01ffff **Numeric sensor**
[NumericSensorElementName] going
low (lower critical) has asserted.

Explanation: IMM has detected the speed of Fan 1 (Fan 1A Tach or Fan 1B Tach) has gone low.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0480

SNMP Trap ID: 11

Automatically notify Support: No

User response:

- Reseat the failing fan indicated by the lit LED on the fan.
- Replace Fan.

80010204-1d02ffff **Numeric sensor**
[NumericSensorElementName] going
low (lower critical) has asserted.

Explanation: IMM has detected the speed of Fan 2 (Fan 2A Tach or Fan 2B Tach) has gone low.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0480

SNMP Trap ID: 11

Automatically notify Support: No

User response:

- Reseat the failing fan indicated by the lit LED on the fan.
- Replace Fan.

80010204-1d03ffff **Numeric sensor**
[NumericSensorElementName] going
low (lower critical) has asserted.

Explanation: IMM has detected the speed of Fan 3 (Fan 3A Tach or Fan 3B Tach) has gone low.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0480

SNMP Trap ID: 11

Automatically notify Support: No

User response:

- Reseat the failing fan indicated by the lit LED on the fan.
- Replace Fan.

80010204-1d04ffff **Numeric sensor**
[NumericSensorElementName] going
low (lower critical) has asserted.

Explanation: IMM has detected the speed of Fan 4 (Fan 4A Tach or Fan 4B Tach) has gone low.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0480

SNMP Trap ID: 11

Automatically notify Support: No

User response:

- Reseat the failing fan indicated by the lit LED on the fan.
- Replace Fan.

80010204-1d05ffff **Numeric sensor**
[NumericSensorElementName] going
low (lower critical) has asserted.

Explanation: IMM has detected the speed of Fan 5 (Fan 5A Tach or Fan 5B Tach) has gone low.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0480

SNMP Trap ID: 11

Automatically notify Support: No

User response:

- Reseat the failing fan indicated by the lit LED on the fan.
- Replace Fan.

80010204-1d06ffff Numeric sensor
[NumericSensorElementName] going low (lower critical) has asserted.

Explanation: IMM has detected the speed of Fan 6 (Fan 6A Tach or Fan 6B Tach) has gone low.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0480

SNMP Trap ID: 11

Automatically notify Support: No

User response:

- Reseat the failing fan indicated by the lit LED on the fan.
- Replace Fan.

80010701-1001ffff Numeric sensor
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the PCI riser temperature has risen above normal levels.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-1401ffff Numeric sensor
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the temperature of a system board voltage regulator has risen above normal levels.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-1402ffff Numeric sensor
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the temperature of a system board voltage regulator has risen above normal levels.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-1403ffff Numeric sensor
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the temperature of a system board voltage regulator has risen above normal levels.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-1404ffff Numeric sensor
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the temperature of a system board voltage regulator has risen above normal levels.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-1405ffff Numeric sensor
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the temperature of a system board voltage regulator has risen above normal levels.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-1406ffff Numeric sensor
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the temperature of a system board voltage regulator has risen above normal levels.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-1407ffff Numeric sensor
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the temperature of a microprocessor and memory expansion tray voltage regulator has risen above normal.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.

3. Make sure that the room temperature is within operating specifications.

80010701-1408ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the temperature of a microprocessor and memory expansion tray voltage regulator has risen above normal.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-1409ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the temperature of a microprocessor and memory expansion tray voltage regulator has risen above normal.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-140affff **Numeric sensor**
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the temperature of a microprocessor and memory expansion tray voltage regulator has risen above normal.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-140bffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the temperature of a microprocessor and memory expansion tray voltage regulator has risen above normal.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-140cffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-critical) has asserted.

Explanation: IMM has detected that the temperature of a microprocessor and memory expansion tray voltage regulator has risen above normal.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-2701ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-critical) has asserted.

Explanation: IMM has detected that the ambient temperature has risen above normal.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010701-2d01ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-critical) has asserted.

Explanation: The PCH temperature has risen above normal.

Severity: Warning

Alert Category: Warning - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0490

SNMP Trap ID: 12

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-1401ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has asserted.

Explanation: IMM has detected that the temperature of a system board voltage regulator has risen above the upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-1402ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has asserted.

Explanation: IMM has detected that the temperature of a system board voltage regulator has risen above the upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.

3. Make sure that the room temperature is within operating specifications.

80010901-1403ffff Numeric sensor
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: IMM has detected that the temperature of a system board voltage regulator has risen above the upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-1404ffff Numeric sensor
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: IMM has detected that the temperature of a system board voltage regulator has risen above the upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-1405ffff Numeric sensor
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: IMM has detected that the temperature of a system board voltage regulator has risen above the upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-1406ffff Numeric sensor
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: IMM has detected that the temperature of a system board voltage regulator has risen above the upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-1407ffff Numeric sensor
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: IMM has detected that the temperature of a microprocessor and memory expansion tray voltage regulator has risen above the upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-1408ffff Numeric sensor
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: IMM has detected that the temperature of a microprocessor and memory expansion tray voltage regulator has risen above the upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-1409ffff Numeric sensor
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: IMM has detected that the temperature of a microprocessor and memory expansion tray voltage regulator has risen above the upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-140affff Numeric sensor
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: IMM has detected that the temperature of a microprocessor and memory expansion tray voltage regulator has risen above the upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-140bffff Numeric sensor
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: IMM has detected that the temperature of a microprocessor and memory expansion tray voltage regulator has risen above the upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-140cffff **Numeric sensor**
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: IMM has detected that the temperature of a microprocessor and memory expansion tray voltage regulator has risen above the upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-2701ffff **Numeric sensor**
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: IMM has detected that the ambient temperature has risen above its upper critical threshold.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010901-2d01ffff **Numeric sensor**
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: The PCH temperature sensor has risen above its upper critical threshold. A soft shutdown will be attempted.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010902-0701ffff **Numeric sensor**
[NumericSensorElementName] going high (upper critical) has asserted.

Explanation: A voltage has risen above its specified threshold (sensor Planar 12V, Planar 3.3V, or Planar 5V).

Severity: Error

Alert Category: Critical - Voltage

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0494

SNMP Trap ID: 1

Automatically notify Support: Yes

User response:

- (Trained service technician only) If the specified sensor is Planar 3.3V or Planar 5V, replace the system board.
- If the specified sensor is Planar 12V, check the IMM Web event log for power-supply-related issues, and resolve those issues.: If the problem remains, (trained service technician only) replace the system board.

80010b01-1401ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The temperature for a system board voltage regulator has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010b01-1402ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The temperature for a system board voltage regulator has risen above its threshold. A hard shutdown has occurred. asserted.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010b01-1403ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The temperature for a system board voltage regulator has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010b01-1404ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The temperature for a system board voltage regulator has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010b01-1405ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The temperature for a system board voltage regulator has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010b01-1406ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The temperature for a system board voltage regulator has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010b01-1407ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The temperature for a microprocessor and memory expansion tray voltage regulator has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.

3. Make sure that the room temperature is within operating specifications.

80010b01-1408ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The temperature for a microprocessor and memory expansion tray voltage regulator has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010b01-1409ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The temperature for a microprocessor and memory expansion tray voltage regulator has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
 2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
 3. Make sure that the room temperature is within operating specifications.
-

80010b01-140affff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The temperature for a microprocessor and memory expansion tray voltage regulator has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010b01-140bffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The temperature for a microprocessor and memory expansion tray voltage regulator has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010b01-140cffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The temperature for a microprocessor

and memory expansion tray voltage regulator has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010b01-2701ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The ambient temperature has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80010b01-2d01ffff **Numeric sensor**
[NumericSensorElementName] going high (upper non-recoverable) has asserted.

Explanation: The PCH temperature sensor has risen above its threshold. A hard shutdown has occurred.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0498

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.
4. If this is the only temperature related event and the event persists, replace the system board (Trained Service personnel only).

80030006-2101ffff Sensor [SensorElementName] has deasserted.

Explanation: Secure UEFI update completed Successfully.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0509

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

80030108-0a01ffff Sensor [SensorElementName] has asserted.

Explanation: Power Supply load has reached maximum capacity.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0508

SNMP Trap ID:

Automatically notify Support: No

User response: PS Heavy Load: The system will throttle to lower the load. Information only; no action is required.

8003010e-2581ffff Sensor [SensorElementName] has asserted.

Explanation: IMM has detected that the memory size has changed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0508

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

80070114-2201ffff Sensor [SensorElementName] has transitioned from normal to non-critical state.

Explanation: Trusted Platform Module (TPM) event has transitioned to non critical state.

Severity: Warning

Alert Category: Warning - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0520

SNMP Trap ID: 60

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

80070201-0301ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a CPU 1 temperature Sensor has transitioned to critical.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80070201-0302ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a CPU 2 temperature Sensor has transitioned to critical.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80070201-0303ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a CPU 3 temperature Sensor has transitioned to critical.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80070201-0304ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a CPU 4 temperature Sensor has transitioned to critical.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 0

Automatically notify Support: No

User response:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

80070202-0701ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: The Planar Fault sensor has detected a problem with the system board.

Severity: Error

Alert Category: Critical - Voltage

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 1

Automatically notify Support: No

User response: Complete the following steps:

1. Remove any recently installed components.
2. Try to power on the node.
 - If the node successfully powers on, complete the following steps:
 - a. Check the ServerProven website to make sure that recently installed components are compatible with the compute node.
 - b. Inspect the previously installed components for physical damage.
 - If the node does not successfully power on or if this is not the first occurrence of this problem, (trained service technician only) replace the system board.

80070204-2584ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a Power Supply Fan (PS Fan Fault) has transitioned to critical.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 11

Automatically notify Support: No

User response:

1. Check for Power Supply with PS fault in the event log
2. Replace the Power Supply that has the PS Fault

80070208-2584ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a Power Supply Sensor has transitioned to critical. (PS CSF Fault or PS Therm Fault)

Severity: Error

Alert Category: Critical - Power

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 4

Automatically notify Support: No

User response:

1. Check for Power Supply with PS fault in the IMM event log
2. Replace the Power Supply that has the PS Fault

8007020f-2582ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a "No I/O Resources" Sensor has transitioned to critical.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

80070219-0701ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a System Board Fault Sensor has transitioned to critical.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

8007021b-0301ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a CPU 1 QPI Link Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

8007021b-0302ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a CPU 2 QPI Link Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

8007021b-0303ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a CPU 3 QPI Link Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

8007021b-0304ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a CPU 4 QPI Link Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

80070221-1f01ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a CPU 1 QPI Link Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The

UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

80070221-1f02ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a CPU 2 QPI Link Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

80070221-1f03ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a CPU 3 QPI Link Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

80070221-1f04ffff Sensor [SensorElementName] has transitioned to critical from a less severe state.

Explanation: IMM has detected a CPU 4 QPI Link Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0522

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

80070301-0301ffff Sensor [SensorElementName] has transitioned to non-recoverable from a less severe state.

Explanation: IMM has detected that the temperature for CPU 1 has transitioned to a non recoverable state.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0524

SNMP Trap ID: 0

Automatically notify Support: No

User response: Complete the following steps:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.
4. Make sure that the microprocessor 1 heat sink is securely installed.
5. (Trained service technician only) Make sure that the microprocessor 1 heat sink is installed correctly and the thermal material is correctly applied.
6. (Trained service technician only) Replace microprocessor 1.

80070301-0302ffff Sensor [SensorElementName] has transitioned to non-recoverable from a less severe state.

Explanation: IMM has detected that the temperature for CPU 2 has transitioned to a non recoverable state.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0524

SNMP Trap ID: 0

Automatically notify Support: No

User response: Complete the following steps:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.
4. Make sure that the microprocessor 2 heat sink is securely installed.
5. (Trained service technician only) Make sure that the microprocessor 2 heat sink is installed correctly and the thermal material is correctly applied.
6. (Trained service technician only) Replace microprocessor 2.

80070301-0303ffff Sensor [SensorElementName] has transitioned to non-recoverable from a less severe state.

Explanation: IMM has detected that the temperature for CPU 3 has transitioned to a non recoverable state.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0524

SNMP Trap ID: 0

Automatically notify Support: No

User response: Complete the following steps:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.
4. Make sure that the microprocessor 3 heat sink is securely installed.
5. (Trained service technician only) Make sure that the microprocessor 3 heat sink is installed correctly and the thermal material is correctly applied.
6. (Trained service technician only) Replace microprocessor 3.

80070301-0304ffff Sensor [SensorElementName] has transitioned to non-recoverable from a less severe state.

Explanation: IMM has detected that the temperature for CPU 4 has transitioned to a non recoverable state.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0524

SNMP Trap ID: 0

Automatically notify Support: No

User response: Complete the following steps:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.
4. Make sure that the microprocessor 4 heat sink is securely installed.
5. (Trained service technician only) Make sure that the microprocessor 4 heat sink is installed correctly and the thermal material is correctly applied.
6. (Trained service technician only) Replace microprocessor 4.

80070603-0701ffff Sensor [SensorElementName] has transitioned to non-recoverable.

Explanation: IMM has detected Voltage Regulator Error.

Severity: Error

Alert Category: Critical - Power

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0530

SNMP Trap ID: 4

Automatically notify Support: No

User response:

- CPU 1 VRD: Indicates a problem with either the voltage regulator for CPU1 or CPU 1 itself
- CPU 2 VRD: Indicates a problem with either the voltage regulator for CPU2 or CPU 2 itself
- DIMM 01-06 VRD: Indicates a problem with either the voltage regulator for DIMMs 1-6 or 1 or more of the following components: DIMM1-DIMM6
- DIMM 07-12 VRD: Indicates a problem with either the voltage regulator for DIMMs 7-12 or 1 or more of the following components: DIMM7-DIMM12
- DIMM 13-18 VRD: Indicates a problem with either the voltage regulator for DIMMs 13-18 or 1 or more of the following components: DIMM13-DIMM18
- DIMM 19-24 VRD: Indicates a problem with either the voltage regulator for DIMMs 19-24 or 1 or more of the following components: DIMM19-DIMM24
- MainBrd ENET VRD: Indicates a problem with either the voltage regulator for the onboard Ethernet or the 10Gb add-in card

- MainBrd SAS VRD: Indicates a problem with either the voltage regulator for the onboard SAS or the RAID cache card

- MainBrd VRD: Indicates a problem with a voltage regulator for the system board

- System VRD: Indicates a problem with either a voltage regulator for the system board or the microprocessor and memory expansion tray

1. Check the IMM Web event log. This event may be a symptom of an earlier error.
2. Depending on the error perform the following steps.

For a CPU 1 VRD or CPU 2 VRD error:

1. Replace system board.
2. Replace affected microprocessor.

For a DIMM 01-06 VRD, DIMM 07-12 VRD, DIMM 13-18 VRD, or DIMM 19-24 VRD error:

1. Replace DIMM(s) associated with error.
2. Replace system board.

For a MainBrd ENET VRD error:

1. Replace the Dual-port 10Gb-T (copper) Ethernet Adapter or the Dual-port 10Gb SFP+ (fibre) Ethernet Adapter if installed.
2. Replace system board.

For a MainBrd SAS VRD error:

1. Replace the RAID cache card if installed.
2. Replace system board.

For a MainBrd VRD error:

1. Replace system board.

For a System VRD error:

1. Replace microprocessor and memory expansion tray if installed.
2. Replace system board.

80070603-0B01ffff Sensor [SensorElementName] has transitioned to non-recoverable.

Explanation: IMM has detected Voltage Regulator Error.

Severity: Error

Alert Category: Critical - Power

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0530

SNMP Trap ID: 4

Automatically notify Support: No

User response: 10Gb-T VRD: Indicates a problem with

either the voltage regulator for the 10Gb add in card or the 10Gb add in card itself

1. Check the IMM Web event log. This event may be a symptom of an earlier error.
2. Replace the Dual-port 10Gb-T (copper) Ethernet Adapter or the Dual-port 10Gb SFP+ (fibre) Ethernet Adapter if installed.
3. Replace the system board.

80070603-2584ffff Sensor [SensorElementName] has transitioned to non-recoverable.

Explanation: IMM has detected Voltage Regulator Error.

Severity: Error

Alert Category: Critical - Power

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0530

SNMP Trap ID: 4

Automatically notify Support: No

User response: Power Supply: Indicates a problem with either the system board voltage or the power supply is failing

1. Check the IMM Web event log. This event may be a symptom of an earlier error.
2. Replace any newly installed options.
3. Replace the power supplies.
4. Replace the power interposer card if installed.
5. Replace the system board.

80070603-2B01ffff Sensor [SensorElementName] has transitioned to non-recoverable.

Explanation: IMM has detected a voltage regulator error on the microprocessor and memory expansion tray.

Severity: Error

Alert Category: Critical - Power

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0530

SNMP Trap ID: 4

Automatically notify Support: No

User response:

- CPU 3 VRD: Indicates a problem with either the voltage regulator for CPU3 or CPU 3 itself
- CPU 4 VRD: Indicates a problem with either the voltage regulator for CPU4 or CPU 4 itself
- DIMM 25-30 VRD: Indicates a problem with either the voltage regulator for DIMMs 25-30 or 1 or more of the following components: DIMM25-DIMM30

- DIMM 31-36 VRD: Indicates a problem with either the voltage regulator for DIMMs 31-36 or 1 or more of the following components: DIMM31-DIMM36
- DIMM 37-42 VRD: Indicates a problem with either the voltage regulator for DIMMs 37-42 or 1 or more of the following components: DIMM37-DIMM42
- DIMM 43-48 VRD: Indicates a problem with either the voltage regulator for DIMMs 43-48 or 1 or more of the following components: DIMM43-DIMM48

1. Check the IMM Web event log. This event may be a symptom of an earlier error.
2. Depending on the error perform the following steps.

For a CPU 3 VRD or CPU 4 VRD error:

1. Replace the microprocessor and memory expansion tray.
2. Replace affected microprocessor.

For a DIMM 25-30 VRD, DIMM 31-36 VRD, DIMM 37-42 VRD, or DIMM 43-48 VRD error:

1. Replace DIMM(s) associated with error.
2. Replace the microprocessor and memory expansion tray.

80070608-2584ffff Sensor [SensorElementName] has transitioned to non-recoverable.

Explanation: IMM has detected Power Supply related fault. (PS 12V OC Fault, PS 12V OV Fault, PS 12V UV Fault, or PS AUX UV Fault)

Severity: Error

Alert Category: Critical - Power

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0530

SNMP Trap ID: 4

Automatically notify Support: No

User response:

1. Check the power supply LEDs, see "Power-supply LEDs".
2. Replace the failing power supply.

8007060f-2201ffff Sensor [SensorElementName] has transitioned to non-recoverable.

Explanation: Trusted Platform Module (TPM) initialization error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0530

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

8008000f-2101ffff Device

[LogicalDeviceElementName] has been removed from unit [PhysicalPackageElementName].

Explanation: IMM has detected that the TPM Physical Presence switch has been deasserted.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0537

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

80080128-2101ffff Device

[LogicalDeviceElementName] has been added.

Explanation: IMM has detected low security jumper has been added.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0536

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

800b0108-1381ffff Redundancy Lost for [RedundancySetElementName] has asserted.

Explanation: Power Supply Redundancy has been lost.

Severity: Error

Alert Category: Critical - Redundant Power Supply

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0802

SNMP Trap ID: 9

Automatically notify Support: No

User response:

1. Power Unit: Check if Power Supply is missing, unplugged.
2. Check the power supply LEDs, see "Power-supply LEDs"
3. Replace the affected power supply.

800b010a-1e81ffff Redundancy Lost for [RedundancySetElementName] has asserted.

Explanation: Fan Redundancy has been lost.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0802

SNMP Trap ID: 11

Automatically notify Support: No

User response: Replace Fan 1

800b010a-1e82ffff Redundancy Lost for [RedundancySetElementName] has asserted.

Explanation: Fan Redundancy has been lost.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0802

SNMP Trap ID: 11

Automatically notify Support: No

User response: Replace Fan 2

800b010a-1e83ffff Redundancy Lost for [RedundancySetElementName] has asserted.

Explanation: Fan Redundancy has been lost.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0802

SNMP Trap ID: 11

Automatically notify Support: No

User response: Replace Fan 3

800b010a-1e84ffff Redundancy Lost for
[RedundancySetElementName] has
asserted.

Explanation: Fan Redundancy has been lost.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0802

SNMP Trap ID: 11

Automatically notify Support: No

User response: Replace Fan 4

800b010a-1e85ffff Redundancy Lost for
[RedundancySetElementName] has
asserted.

Explanation: Fan Redundancy has been lost.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0802

SNMP Trap ID: 11

Automatically notify Support: No

User response: Replace Fan 5

800b010a-1e86ffff Redundancy Lost for
[RedundancySetElementName] has
asserted.

Explanation: Fan Redundancy has been lost.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0802

SNMP Trap ID: 11

Automatically notify Support: No

User response: Replace Fan 6

800b010c-2581ffff Redundancy Lost for
[RedundancySetElementName] has
asserted.

Explanation: Backup Memory Redundancy has been lost.

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0802

SNMP Trap ID: 41

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

800b0208-1381ffff Redundancy Degraded for
[RedundancySetElementName] has
asserted.

Explanation: Power unit is no longer in the redundant state.

Severity: Warning

Alert Category: Warning - Redundant Power Supply

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0804

SNMP Trap ID: 10

Automatically notify Support: No

User response:

1. Check if Power Supply is missing, unplugged.
 2. Check the power supply LEDs, see "Power-supply LEDs"
 3. Replace the affected power supply.
-

800b0308-1381ffff Non-redundant:Sufficient
Resources from Redundancy Degraded
or Fully Redundant for
[RedundancySetElementName] has
asserted.

Explanation: Power Supply is supplying sufficient power but is no longer in a redundancy state.

Severity: Warning

Alert Category: Warning - Redundant Power Supply

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0806

SNMP Trap ID: 10

Automatically notify Support: No

User response:

1. Power Unit: Check if Power Supply is missing, unplugged.
 2. Check the power supply LEDs, see "Power-supply LEDs"
 3. Replace the affected power supply.
-

800b030c-2581ffff Non-redundant:Sufficient Resources from Redundancy Degraded or Fully Redundant for Backup Memory has asserted.

Explanation: Backup Memory has transitioned from Redundancy Degraded or Fully Redundant to Non-redundant:Sufficient.

Severity: Warning

Alert Category: Warning - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0806

SNMP Trap ID: 43

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

800b050a-1e81ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has asserted.

Explanation: Insufficient cooling provided by fan 1.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0810

SNMP Trap ID: 11

Automatically notify Support: No

User response: Replace Fan 1

800b050a-1e82ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has asserted.

Explanation: Insufficient cooling provided by fan 2.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0810

SNMP Trap ID: 11

Automatically notify Support: No

User response: Replace Fan2

800b050a-1e83ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has asserted.

Explanation: Insufficient cooling provided by fan 3.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0810

SNMP Trap ID: 11

Automatically notify Support: No

User response: Replace Fan 3

800b050a-1e84ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has asserted.

Explanation: Insufficient cooling provided by fan 4.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0810

SNMP Trap ID: 11

Automatically notify Support: No

User response: Replace Fan 4

800b050a-1e85ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has asserted.

Explanation: Insufficient cooling provided by fan 5.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0810

SNMP Trap ID: 11

Automatically notify Support: No

User response: Replace Fan 5

800b050a-1e86ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has asserted.

Explanation: Insufficient cooling provided by fan 6.

Severity: Error

Alert Category: Critical - Fan Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0810

SNMP Trap ID: 11

Automatically notify Support: No

User response: Replace Fan 6

800b050c-2581ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has asserted.

Explanation: Backup Memory Sensor has transitioned to Non-redundant:Insufficient Resources.

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0810

SNMP Trap ID: 41

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0007-0301ffff [ProcessorElementName] has Failed with IERR.

Explanation: IMM has detected processor 1 failed - IERR condition.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0042

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0007-0302ffff [ProcessorElementName] has Failed with IERR.

Explanation: IMM has detected processor 2 failed - IERR condition.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0042

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0007-0303ffff [ProcessorElementName] has Failed with IERR.

Explanation: IMM has detected processor 3 failed - IERR condition.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0042

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0007-0304ffff [ProcessorElementName] has Failed with IERR.

Explanation: IMM has detected processor 4 failed - IERR condition.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0042

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0008-0a01ffff [PowerSupplyElementName] has been added to container [PhysicalPackageElementName].

Explanation: IMM has detected a Power Supply has been added.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0084

SNMP Trap ID:

Automatically notify Support: No

User response: Power Supply 1: Information only; no action is required.

806f0008-0a02ffff [PowerSupplyElementName] has been added to container [PhysicalPackageElementName].

Explanation: IMM has detected a Power Supply has been added.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0084

SNMP Trap ID:

Automatically notify Support: No

User response: Power Supply 2: Information only; no action is required.

806f0009-1381ffff [PowerSupplyElementName] has been turned off.

Explanation: IMM has detected that the system power has been turned off.

Severity: Info

Alert Category: System - Power Off

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0106

SNMP Trap ID: 23

Automatically notify Support: No

User response: Host Power: Information only; no action is required.

806f000d-0400ffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 0 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0401ffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 1 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0402ffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 2 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0403ffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 3 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0404ffff The
[NumericSensorElementName] has been
added.

Explanation: Hard drive 4 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

806f000d-0405ffff The
[NumericSensorElementName] has been
added.

Explanation: Hard drive 5 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

806f000d-0406ffff The
[NumericSensorElementName] has been
added.

Explanation: Hard drive 6 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

806f000d-0407ffff The
[NumericSensorElementName] has been
added.

Explanation: Hard drive 7 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

806f000d-0408ffff The
[NumericSensorElementName] has been
added.

Explanation: Hard drive 8 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

806f000d-0409ffff The
[NumericSensorElementName] has been
added.

Explanation: Hard drive 9 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

806f000d-040affff The
[NumericSensorElementName] has been
added.

Explanation: Hard drive 10 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-040bffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 11 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-040cffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 12 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-040dffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 13 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-040effff The [NumericSensorElementName] has been added.

Explanation: Hard drive 14 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-040fffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 15 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0410ffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 16 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0411ffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 17 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0412ffff The
[NumericSensorElementName] has been added.

Explanation: Hard drive 18 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0413ffff The
[NumericSensorElementName] has been added.

Explanation: Hard drive 19 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0414ffff The
[NumericSensorElementName] has been added.

Explanation: Hard drive 20 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0415ffff The
[NumericSensorElementName] has been added.

Explanation: Hard drive 21 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0416ffff The
[NumericSensorElementName] has been added.

Explanation: Hard drive 22 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0417ffff The
[NumericSensorElementName] has been added.

Explanation: Hard drive 23 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0418ffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 24 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-0419ffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 25 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-041affff The [NumericSensorElementName] has been added.

Explanation: Hard drive 26 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-041bffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 27 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-041cffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 28 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-041dffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 29 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-041effff The [NumericSensorElementName] has been added.

Explanation: Hard drive 30 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000d-041ffff The [NumericSensorElementName] has been added.

Explanation: Hard drive 31 has been installed.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0162

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

806f000f-220101xx The System [ComputerSystemElementName] has detected no memory in the system.

Explanation: IMM has detected that there is no memory in the system.

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0794

SNMP Trap ID: 41

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-220102xx Subsystem [MemoryElementName] has insufficient memory for operation.

Explanation: IMM has detected that the usable Memory is insufficient for operation. (ABR Status, Firmware Error)

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0132

SNMP Trap ID: 41

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the

logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-220103xx The System [ComputerSystemElementName] encountered firmware error - unrecoverable boot device failure.

Explanation: IMM has detected that System Firmware Error Unrecoverable boot device failure has occurred. (ABR Status or Firmware Error)

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0770

SNMP Trap ID: 5

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-220104xx The System [ComputerSystemElementName]has encountered a motherboard failure.

Explanation: IMM has detected a fatal motherboard error in the system.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0795

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-220107xx The System [ComputerSystemElementName] encountered firmware error - unrecoverable keyboard failure.

Explanation: IMM has detected that System Firmware Error Unrecoverable Keyboard failure has occurred.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0764

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-22010axx The System
[ComputerSystemElementName]
encountered firmware error - no video
device detected.

Explanation: IMM has detected that System Firmware Error No video device detected has occurred.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0766

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-22010bxx Firmware BIOS (ROM) corruption
was detected on system
[ComputerSystemElementName] during
POST.

Explanation: Firmware BIOS (ROM) corruption was detected on the system during POST.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0850

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-22010cxx CPU voltage mismatch detected
on [ProcessorElementName].

Explanation: IMM has detected a CPU voltage mismatch with the CPU socket voltage.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0050

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-2201ffff The System
[ComputerSystemElementName]
encountered a POST Error.

Explanation: IMM has detected a Post Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0184

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-220201xx The System
[ComputerSystemElementName] has
detected no memory in the system.

Explanation: IMM has detected no memory in the system.

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0794

SNMP Trap ID: 41

Automatically notify Support: No

User response: Sys Boot Status: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please

refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-220202xx Subsystem
[MemoryElementName] has insufficient memory for operation.

Explanation: IMM has detected that the usable Memory is insufficient for operation.

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0132

SNMP Trap ID: 41

Automatically notify Support: No

User response: Sys Boot Status: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-220203xx The System
[ComputerSystemElementName]
encountered firmware error - unrecoverable boot device failure.

Explanation: IMM has detected that System Firmware Error Unrecoverable boot device failure has occurred.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0770

SNMP Trap ID: 5

Automatically notify Support: No

User response: Sys Boot Status: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-220204xx The System
[ComputerSystemElementName]has
encountered a motherboard failure.

Explanation: IMM has detected a fatal motherboard error in the system.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0795

SNMP Trap ID: 50

Automatically notify Support: No

User response: Sys Boot Status: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-220207xx The System
[ComputerSystemElementName]
encountered firmware error - unrecoverable keyboard failure.

Explanation: IMM has detected that System Firmware Error Unrecoverable Keyboard failure has occurred.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0764

SNMP Trap ID: 50

Automatically notify Support: No

User response: Sys Boot Status: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-22020axx The System
[ComputerSystemElementName]
encountered firmware error - no video device detected.

Explanation: IMM has detected that System Firmware Error No video device detected has occurred.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0766

SNMP Trap ID: 50

Automatically notify Support: No

User response: Sys Boot Status: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-22020bxx Firmware BIOS (ROM) corruption was detected on system [ComputerSystemElementName] during POST.

Explanation: Firmware BIOS (ROM) corruption was detected on the system during POST.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0850

SNMP Trap ID: 50

Automatically notify Support: No

User response: Sys Boot Status: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-22020cxx CPU voltage mismatch detected on [ProcessorElementName].

Explanation: IMM has detected a CPU voltage mismatch with the socket voltage.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0050

SNMP Trap ID: 40

Automatically notify Support: No

User response: Sys Boot Status: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f000f-2202ffff The System [ComputerSystemElementName] encountered a POST Error.

Explanation: IMM has detected a Post Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0184

SNMP Trap ID: 50

Automatically notify Support: No

User response: Sys Boot Status: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0013-1701ffff A diagnostic interrupt has occurred on system [ComputerSystemElementName].

Explanation: The user has pressed the NMI button or there has been a malfunction with the button.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0222

SNMP Trap ID: 50

Automatically notify Support: No

User response: If the NMI button has not been pressed, complete the following steps:

1. Make sure that the NMI button is not pressed.
2. Replace the system board (Trained service personnel only).

806f0021-0b01ffff Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName].

Explanation: IMM has detected a Fault in PCIe slot 1.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: Replace PCIe card

806f0021-0b02ffff Fault in slot [PhysicalConnectorSystemElementName] on system [ComputerSystemElementName].

Explanation: IMM has detected a Fault in PCIe slot 2.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: Replace PCIe card

806f0021-0b03ffff Fault in slot
[PhysicalConnectorSystemElementName]
on system
[ComputerSystemElementName].

Explanation: IIMM has detected a Fault in PCIe slot 3.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: Replace PCIe card

806f0021-0b04ffff Fault in slot
[PhysicalConnectorSystemElementName]
on system
[ComputerSystemElementName].

Explanation: IMM has detected a Fault in PCIe slot 4.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: Replace PCIe card

806f0021-0b05ffff Fault in slot
[PhysicalConnectorSystemElementName]
on system
[ComputerSystemElementName].

Explanation: IMM has detected a Fault in PCIe slot 5.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: Replace PCIe card

806f0021-0b06ffff Fault in slot
[PhysicalConnectorSystemElementName]
on system
[ComputerSystemElementName].

Explanation: IMM has detected a Fault in PCIe slot 6.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: Replace PCIe card

806f0021-0b07ffff Fault in slot
[PhysicalConnectorSystemElementName]
on system
[ComputerSystemElementName].

Explanation: IMM has detected a Fault in PCIe slot 7.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: Replace PCIe card

806f0021-0b08ffff Fault in slot
[PhysicalConnectorSystemElementName]
on system
[ComputerSystemElementName].

Explanation: IMM has detected a Fault in PCIe slot 8.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: Replace PCIe card

806f0021-2201ffff Fault in slot
[PhysicalConnectorSystemElementName]
on system
[ComputerSystemElementName].

Explanation: IMM has detected No Op ROM Space.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0021-2582ffff Fault in slot
[PhysicalConnectorSystemElementName]
on system
[ComputerSystemElementName].

Explanation: IMM has detected a fault in one of the PCI slots or the PCI bus without isolating the to a slot.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0330

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0023-2101ffff Watchdog Timer expired for
[WatchdogElementName].

Explanation: The IPMI Watchdog Timer has expired.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0368

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f0028-2101ffff Sensor [SensorElementName] is
unavailable or degraded on management
system [ComputerSystemElementName].

Explanation: Trusted Platform Module(TPM) initialization or start up commands have failed.

Severity: Warning

Alert Category: Warning - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0398

SNMP Trap ID: 60

Automatically notify Support: No

User response:

1. Reboot the system.
2. If error persists, or boot is unsuccessful, (Trained service technician only) Replace the system board.

806f0107-0301ffff An Over-Temperature Condition
has been detected on
[ProcessorElementName].

Explanation: The microprocessor 1 temperature has risen above the critical level, causing a hard shutdown of the node.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0036

SNMP Trap ID: 0

Automatically notify Support: No

User response: Complete the following steps:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.
4. Make sure that the microprocessor 1 heat sink is securely installed.
5. (Trained service technician only) Make sure that the microprocessor 1 heat sink is installed correctly and the thermal material is correctly applied.
6. (Trained service technician only) Replace microprocessor 1.

806f0107-0302ffff An Over-Temperature Condition
has been detected on
[ProcessorElementName].

Explanation: The microprocessor 2 temperature has risen above the critical level, causing a hard shutdown of the node.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0036

SNMP Trap ID: 0

Automatically notify Support: No

User response: Complete the following steps:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.
4. Make sure that the microprocessor 2 heat sink is securely installed.
5. (Trained service technician only) Make sure that the microprocessor 2 heat sink is installed correctly and the thermal material is correctly applied.
6. (Trained service technician only) Replace microprocessor 2.

806f0107-0303ffff An Over-Temperature Condition has been detected on [ProcessorElementName].

Explanation: The microprocessor 3 temperature has risen above the critical level, causing a hard shutdown of the node.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0036

SNMP Trap ID: 0

Automatically notify Support: No

User response: Complete the following steps:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.
4. Make sure that the microprocessor 3 heat sink is securely installed.
5. (Trained service technician only) Make sure that the microprocessor 3 heat sink is installed correctly and the thermal material is correctly applied.
6. (Trained service technician only) Replace microprocessor 3.

806f0107-0304ffff An Over-Temperature Condition has been detected on [ProcessorElementName].

Explanation: The microprocessor 4 temperature has

risen above the critical level, causing a hard shutdown of the node.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0036

SNMP Trap ID: 0

Automatically notify Support: No

User response: Complete the following steps:

1. Check the IMM event log for any fan or cooling related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.
4. Make sure that the microprocessor 4 heat sink is securely installed.
5. (Trained service technician only) Make sure that the microprocessor 4 heat sink is installed correctly and the thermal material is correctly applied.
6. (Trained service technician only) Replace microprocessor 4.

806f0108-0a01ffff [PowerSupplyElementName] has Failed.

Explanation: IMM has detected a Fault on Power Supply 1.

Severity: Error

Alert Category: Critical - Power

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0086

SNMP Trap ID: 4

Automatically notify Support: Yes

User response: Check the log for additional Power Supply Failure. Replace the Power Supply 1, if needed

806f0108-0a02ffff [PowerSupplyElementName] has Failed.

Explanation: IMM has detected a Fault on Power Supply 2.

Severity: Error

Alert Category: Critical - Power

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0086

SNMP Trap ID: 4

Automatically notify Support: Yes

User response: Check the log for additional Power Supply Failure. Replace the Power Supply 2, if needed

806f0109-1381ffff [PowerSupplyElementName] has been Power Cycled.

Explanation: System has been power cycled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0108

SNMP Trap ID:

Automatically notify Support: No

User response: Host Power: Information only; no action is required.

806f010c-2581ffff Uncorrectable error detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName].

Explanation: IMM has detected a Memory uncorrectable error in one of the DIMMs.

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0138

SNMP Trap ID: 41

Automatically notify Support: Yes

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f010d-0400ffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 0 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0401ffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 1 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0402ffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 2 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0403ffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 3 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0404ffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 4 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0405ffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 5 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0406ffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 6 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0407ffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 7 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0408ffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 8 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0409ffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 9 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-040affff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 10 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-040bffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 11 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-040cffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 12 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-040dffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 13 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-040effff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 14 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-040fffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 15 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0410ffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 16 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0411ffff The
[NumericSensorElementName] has been
disabled due to a detected fault.

Explanation: The drive 17 has been disabled (defunct)
due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service
Bulletins/RETAIN tips related to your particular
drive.
 2. Check IBM Support site for firmware updates
related to your particular drive.
 3. Check for any other RAID related errors.
 4. Replace the drive.
-

806f010d-0412ffff The
[NumericSensorElementName] has been
disabled due to a detected fault.

Explanation: The drive 18 has been disabled (defunct)
due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service
Bulletins/RETAIN tips related to your particular
drive.
 2. Check IBM Support site for firmware updates
related to your particular drive.
 3. Check for any other RAID related errors.
 4. Replace the drive.
-

806f010d-0413ffff The
[NumericSensorElementName] has been
disabled due to a detected fault.

Explanation: The drive 19 has been disabled (defunct)
due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service
Bulletins/RETAIN tips related to your particular
drive.
 2. Check IBM Support site for firmware updates
related to your particular drive.
 3. Check for any other RAID related errors.
 4. Replace the drive.
-

806f010d-0414ffff The
[NumericSensorElementName] has been
disabled due to a detected fault.

Explanation: The drive 20 has been disabled (defunct)
due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service
Bulletins/RETAIN tips related to your particular
drive.
 2. Check IBM Support site for firmware updates
related to your particular drive.
 3. Check for any other RAID related errors.
 4. Replace the drive.
-

806f010d-0415ffff The
[NumericSensorElementName] has been
disabled due to a detected fault.

Explanation: The drive 21 has been disabled (defunct)
due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0416ffff The
[NumericSensorElementName] has been
disabled due to a detected fault.

Explanation: The drive 22 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0417ffff The
[NumericSensorElementName] has been
disabled due to a detected fault.

Explanation: The drive 23 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0418ffff The
[NumericSensorElementName] has been
disabled due to a detected fault.

Explanation: The drive 24 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-0419ffff The
[NumericSensorElementName] has been
disabled due to a detected fault.

Explanation: The drive 25 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-041affff The
[NumericSensorElementName] has been
disabled due to a detected fault.

Explanation: The drive 26 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-041bffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 27 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-041cffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 28 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-041dffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 29 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-041effff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 30 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010d-041ffff The [NumericSensorElementName] has been disabled due to a detected fault.

Explanation: The drive 31 has been disabled (defunct) due to a fault detected by the controller.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0164

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

1. Check IBM Support site for Service Bulletins/RETAIN tips related to your particular drive.
2. Check IBM Support site for firmware updates related to your particular drive.
3. Check for any other RAID related errors.
4. Replace the drive.

806f010f-2201ffff The System [ComputerSystemElementName] encountered a firmware hang.

Explanation: IMM has detected a System Firmware Hang.

Severity: Error

Alert Category: System - Boot failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0186

SNMP Trap ID: 25

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f011b-0701ffff The connector [PhysicalConnectorElementName] has encountered a configuration error.

Explanation: IMM has detected Interconnect Configuration Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0266

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: FPGA Comm Err:

1. AC cycle the machine.
2. Update IMM FW to the latest level.
3. (Trained service technician only) If error persists, replace system board.

USB Detect:

1. Reinsert the USB/Video cable.
2. Replace the USB/Video cable.

806f0123-2101ffff Reboot of system [ComputerSystemElementName] initiated by [WatchdogElementName].

Explanation: The IPMI Watchdog Timer has expired. A reboot of the system was initiated.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0370

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f0125-0c01ffff [ManagedElementName] detected as absent.

Explanation: IMM has detected the Operator Information panel is absent.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0392

SNMP Trap ID:

Automatically notify Support: No

User response:

1. Reinsert or replace the operator information panel cable.
2. Replace the operator information panel.

806f0207-0301ffff [ProcessorElementName] has Failed with FRB1/BIST condition.

Explanation: IMM has detected a Microprocessor 1 Failed - FRB1/BIST condition.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0044

SNMP Trap ID: 40

Automatically notify Support: Yes

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0207-0302ffff CPU 2 has Failed with FRB1/BIST condition.

Explanation: IMM has detected a Microprocessor 2 Failed - FRB1/BIST condition.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0044

SNMP Trap ID: 40

Automatically notify Support: Yes

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0207-0303ffff [ProcessorElementName] has Failed with FRB1/BIST condition.

Explanation: IMM has detected a Microprocessor 3 Failed - FRB1/BIST condition.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0044

SNMP Trap ID: 40

Automatically notify Support: Yes

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0207-0304ffff [ProcessorElementName] has Failed with FRB1/BIST condition.

Explanation: IMM has detected a Microprocessor 4 Failed - FRB1/BIST condition.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0044

SNMP Trap ID: 40

Automatically notify Support: Yes

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0207-2583ffff [ProcessorElementName] has Failed with FRB1/BIST condition.

Explanation: IMM has detected a Processor Failed - FRB1/BIST condition.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0044

SNMP Trap ID: 40

Automatically notify Support: Yes

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f020d-0400ffff Failure Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 0.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0401ffff Failure Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 1.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0402ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 2.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0403ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 3.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0404ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 4.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0405ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 5.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0406ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 6.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0407ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 7.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0408ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 8.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0409ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 9.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-040affff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 10.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-040bffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 11.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-040cffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 12.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-040dffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 13.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-040effff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 14.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-040fffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 15.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0410ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 16.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0411ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 17.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0412ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 18.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0413ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 19.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0414ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 20.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0415ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 21.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0416ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 22.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0417ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 23.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0418ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 24.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-0419ffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 25.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-041affff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 26.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-041bffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 27.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-041cffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 28.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-041dffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 29.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-041effff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 30.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f020d-041fffff Failure Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: Failure predicted (PFA) on the hard drive 31.

Severity: Warning

Alert Category: System - Predicted Failure

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0168

SNMP Trap ID: 27

Automatically notify Support: Yes

User response: Replace the hard disk drive at the next maintenance period.

806f0223-2101ffff **Powering off system**
 [ComputerSystemElementName]
 initiated by [WatchdogElementName].

Explanation: The IPMI Watchdog Timer has expired.
 The system was powered off.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0372

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is
 required.

806f0308-0a01ffff [PowerSupplyElementName] has
 lost input.

Explanation: Power Supply 1 AC input has been lost.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0100

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is
 required.

806f0308-0a02ffff [PowerSupplyElementName] has
 lost input.

Explanation: Power Supply 2 AC input has been lost.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0100

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is
 required.

806f030c-2581ffff **Scrub Failure for**
 [PhysicalMemoryElementName] on
 Subsystem [MemoryElementName].

Explanation: IMM has detected a Memory Scrub
 failure.

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0136

SNMP Trap ID: 41

Automatically notify Support: No

User response: This is a UEFI detected event. The
 UEFI diagnostic code for this event can be found in the
 logged IMM message text. Please refer to the UEFI
 diagnostic code in the "UEFI diagnostic code" section of
 the Info Center for the appropriate user response.

806f0313-1701ffff **A software NMI has occurred on**
 system [ComputerSystemElementName].

Explanation: A software NMI has occurred. Your
 system may have been rebooted, depending on the
 configuration setting.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0228

SNMP Trap ID: 50

Automatically notify Support: No

User response: Check Operating System logs and
 resolve any issues related to the NMI.

806f0323-2101ffff **Power cycle of system**
 [ComputerSystemElementName]
 initiated by watchdog
 [WatchdogElementName].

Explanation: The IPMI Watchdog Timer has expired.
 The system was powered off and powered on.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0374

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is
 required.

806f040c-2581ffff [PhysicalMemoryElementName]
 Disabled on Subsystem
 [MemoryElementName].

Explanation: IMM has detected that Memory has been
 Disabled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0131

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0507-0301ffff [ProcessorElementName] has a Configuration Mismatch.

Explanation: IMM has detected a Processor Configuration Mismatch on CPU 1.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0062

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0507-0302ffff [ProcessorElementName] has a Configuration Mismatch.

Explanation: IMM has detected a Processor Configuration Mismatch on CPU 2.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0062

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0507-0303ffff [ProcessorElementName] has a Configuration Mismatch.

Explanation: IMM has detected a Processor Configuration Mismatch on CPU 3.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0062

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0507-0304ffff [ProcessorElementName] has a Configuration Mismatch.

Explanation: IMM has detected a Processor Configuration Mismatch on CPU 4.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0062

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0507-2583ffff [ProcessorElementName] has a Configuration Mismatch.

Explanation: IMM has detected a Processor Configuration Mismatch has occurred.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0062

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f050c-2581ffff Memory Logging Limit Reached for [PhysicalMemoryElementName] on Subsystem [MemoryElementName].

Explanation: IMM has detected that the Memory Logging Limit has been Reached.

Severity: Warning

Alert Category: Warning - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0144

SNMP Trap ID: 43

Automatically notify Support: Yes

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f050d-0400ffff Array [ComputerSystemElementName] is in critical condition.

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0401ffff Array [ComputerSystemElementName] is in critical condition.

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0402ffff Array [ComputerSystemElementName] is in critical condition.

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0403ffff Array [ComputerSystemElementName] is in critical condition.

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0404ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0405ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0406ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0407ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0408ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0409ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-040affff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-040bffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-040cffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-040dffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-040effff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-040fffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0410ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0411ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0412ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0413ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0414ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0415ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0416ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0417ffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0418ffff Array
[ComputerSystemElementName] is in critical condition.

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-0419ffff Array
[ComputerSystemElementName] is in critical condition.

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-041affff Array
[ComputerSystemElementName] is in critical condition.

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-041bffff Array
[ComputerSystemElementName] is in critical condition.

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-041cffff Array
[ComputerSystemElementName] is in critical condition.

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
 - Replace the hard disk drive that is indicated by a lit status LED.
-

806f050d-041dffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-041effff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f050d-041ffffff Array**[ComputerSystemElementName] is in critical condition.**

Explanation: The Drive is part of an RAID array that is in critical condition. Immediate action is required to avoid a system outage. To identify drives in the critical array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0174

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drive that is indicated by a lit status LED.

806f052b-2101ffff Invalid or Unsupported firmware or software was detected on system [ComputerSystemElementName].

Explanation: The IMM primary firmware image has been corrupted. The IMM is running on the backup image.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0446

SNMP Trap ID: 50

Automatically notify Support: No

User response: Reflash or update the IMM firmware.

806f0607-0301ffff An SM BIOS Uncorrectable CPU complex error for [ProcessorElementName] has asserted.

Explanation: The UEFI has detected a configuration type issue with processor 1.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0816

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0607-0302ffff An SM BIOS Uncorrectable CPU complex error for [ProcessorElementName] has asserted.

Explanation: The UEFI has detected a configuration type issue with processor 2.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0816

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0607-0303ffff An SM BIOS Uncorrectable CPU complex error for [ProcessorElementName] has asserted.

Explanation: The UEFI has detected a configuration type issue with processor 3.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0816

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0607-0304ffff An SM BIOS Uncorrectable CPU complex error for [ProcessorElementName] has asserted.

Explanation: The UEFI has detected a configuration type issue with processor 4.

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0816

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0607-2583ffff An SM BIOS Uncorrectable CPU complex error for [ProcessorElementName] has asserted.

Explanation: The UEFI has detected a configuration type issue with the processors installed

Severity: Error

Alert Category: Critical - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0816

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0608-2584ffff [PowerSupplyElementName] has a Configuration Mismatch.

Explanation: IMM has detected a Power Supply with a Configuration Error.

Severity: Error

Alert Category: Critical - Power

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0104

SNMP Trap ID: 4

Automatically notify Support: No

User response: Check If Power supplies have the same AC input. Check If Power supplies have the same power rating.

806f060d-0400ffff Array [ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).

- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0401ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0402ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0403ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0404ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0405ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0406ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0407ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0408ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0409ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
 - Replace the hard disk drives that are indicated by a lit status LED.
 - Recreate the array.
 - Restore data from backup.
-

806f060d-040affff Array**[ComputerSystemElementName] has failed.**

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-040bffff Array**[ComputerSystemElementName] has failed.**

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-040cffff Array**[ComputerSystemElementName] has failed.**

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-040dffff Array**[ComputerSystemElementName] has failed.**

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-040effff Array**[ComputerSystemElementName] has failed.**

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-040fffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0410ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0411ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0412ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0413ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0414ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0415ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0416ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0417ffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0418ffff Array**[ComputerSystemElementName] has failed.**

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-0419ffff Array**[ComputerSystemElementName] has failed.**

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-041affff Array**[ComputerSystemElementName] has failed.**

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-041bffff Array**[ComputerSystemElementName] has failed.**

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-041cffff Array**[ComputerSystemElementName] has failed.**

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-041dffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-041effff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f060d-041fffff Array
[ComputerSystemElementName] has failed.

Explanation: The Drive is part of an RAID array that is in the failed condition. To identify drives in the failed array all member drives will report this message.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0176

SNMP Trap ID: 5

Automatically notify Support: Yes

User response:

- Check IMM log for Predictive Fault (PFA) or other hard drive messages to help identify failing drive(s).
- Replace the hard disk drives that are indicated by a lit status LED.
- Recreate the array.
- Restore data from backup.

806f0707-0301ffff [ProcessorElementName] in slot [SlotElementName] has been added.

Explanation: IMM has detected a Processor has been Added.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0034

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070c-2581ffff Configuration Error for [PhysicalMemoryElementName] on Subsystem [MemoryElementName].

Explanation: IMM has detected that a Memory DIMM configuration error has occurred.

Severity: Error

Alert Category: Critical - Memory

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0126

SNMP Trap ID: 41

Automatically notify Support: No

User response: This is a UEFI detected event. The

UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f070d-0400ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0401ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0402ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that An Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0403ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0404ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0405ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0406ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0407ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0408ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0409ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-040affff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-040bffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-040cffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-040dffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-040effff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-040fffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0410ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0411ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0412ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0413ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0414ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0415ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0416ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0417ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0418ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-0419ffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-041affff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-041bffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-041cffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-041dffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-041effff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f070d-041fffff Rebuild in progress for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild is in Progress.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0178

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f0807-0301ffff [ProcessorElementName] has been Disabled.

Explanation: IMM has detected that Processor 1 has been disabled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0061

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0807-0302ffff [ProcessorElementName] has been Disabled.

Explanation: IMM has detected that Processor 2 has been disabled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0061

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0807-0303ffff [ProcessorElementName] has been Disabled.

Explanation: IMM has detected that Processor 3 has been disabled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0061

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0807-0304ffff [ProcessorElementName] has been Disabled.

Explanation: IMM has detected that Processor 4 has been disabled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0061

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of

the Info Center for the appropriate user response.

806f0807-2583ffff [ProcessorElementName] has been Disabled.

Explanation: IMM has detected a Processor has been Disabled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0061

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0813-2581ffff An Uncorrectable Bus Error has occurred on bus [SensorElementName].

Explanation: IMM has detected a Bus Uncorrectable Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0240

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0813-2582ffff An Uncorrectable Bus Error has occurred on bus [SensorElementName].

Explanation: IMM has detected a Bus Uncorrectable Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0240

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the

logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0813-2583ffff An Uncorrectable Bus Error has occurred on bus [SensorElementName].

Explanation: IMM has detected a Bus Uncorrectable Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0240

SNMP Trap ID: 50

Automatically notify Support: Yes

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0823-2101ffff Watchdog Timer interrupt occurred for [WatchdogElementName].

Explanation: The Watchdog Timer has expired. A watchdog interrupt has occurred.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0376

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

806f090c-2581ffff [PhysicalMemoryElementName] on Subsystem [MemoryElementName] Throttled.

Explanation: An implementation has detected Memory has been Throttled.

Severity: Warning

Alert Category: System - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0142

SNMP Trap ID: 22

Automatically notify Support: No

User response: Complete the following steps:

1. Check the IMM event log for any fan, cooling, or power related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

806f0a07-0301ffff [ProcessorElementName] is operating in a Degraded State.

Explanation: The processor 1 is being throttled due to thermal or power conditions.

Severity: Warning

Alert Category: Warning - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0038

SNMP Trap ID: 42

Automatically notify Support: No

User response: Check the IMM event log for any fan, cooling, or power related issues.

For a thermal condition:

1. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
2. Make sure that the room temperature is within operating specifications.

For a power condition:

1. If Power Supply Unit is rated 1400 Watt, Make sure it is connected to 220V AC input
2. If using a 900 Watt rated power supply (connected at either 110V or 220 V), may need to upgrade to a 1400 Watt rated power supply (connected at 220V).

806f0a07-0302ffff [ProcessorElementName] is operating in a Degraded State.

Explanation: The processor 2 is being throttled due to thermal or power conditions.

Severity: Warning

Alert Category: Warning - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0038

SNMP Trap ID: 42

Automatically notify Support: No

User response: Check the IMM event log for any fan, cooling, or power related issues.

For a thermal condition:

1. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
2. Make sure that the room temperature is within operating specifications.

For a power condition:

1. If Power Supply Unit is rated 1400 Watt, Make sure it is connected to 220V AC input
2. If using a 900 Watt rated power supply (connected at either 110V or 220 V), may need to upgrade to a 1400 Watt rated power supply (connected at 220V).

806f0a07-0303ffff [ProcessorElementName] is operating in a Degraded State.

Explanation: The processor 3 is being throttled due to thermal or power conditions.

Severity: Warning

Alert Category: Warning - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0038

SNMP Trap ID: 42

Automatically notify Support: No

User response: Check the IMM event log for any fan, cooling, or power related issues.

For a thermal condition:

1. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
2. Make sure that the room temperature is within operating specifications.

For a power condition:

1. If Power Supply Unit is rated 1400 Watt, Make sure it is connected to 220V AC input
2. If using a 900 Watt rated power supply (connected at either 110V or 220 V), may need to upgrade to a 1400 Watt rated power supply (connected at 220V).

806f0a07-0304ffff [ProcessorElementName] is operating in a Degraded State.

Explanation: The processor 4 is being throttled due to thermal or power conditions.

Severity: Warning

Alert Category: Warning - CPU

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0038

SNMP Trap ID: 42

Automatically notify Support: No

User response: Check the IMM event log for any fan, cooling, or power related issues.

For a thermal condition:

1. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
2. Make sure that the room temperature is within operating specifications.

For a power condition:

1. If Power Supply Unit is rated 1400 Watt, Make sure it is connected to 220V AC input
2. If using a 900 Watt rated power supply (connected at either 110V or 220 V), may need to upgrade to a 1400 Watt rated power supply (connected at 220V).

806f0a0c-2581ffff An Over-Temperature Condition has been detected on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName].

Explanation: IMM has detected an over temperature condition on the memory.

Severity: Error

Alert Category: Critical - Temperature

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0146

SNMP Trap ID: 0

Automatically notify Support: No

User response: Complete the following steps:

1. Check the IMM event log for any fan, cooling, or power related issues.
2. Make sure that the airflow at the front and rear of the chassis is not obstructed and that fillers are in place and correctly installed.
3. Make sure that the room temperature is within operating specifications.

806f0a13-2401ffff A Fatal Bus Error has occurred on bus [SensorElementName].

Explanation: IMM has detected a Bus Fatal Error.

Severity: Error

Alert Category: Critical - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0244

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI

diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

806f0b13-3101ffff Bus [SensorElementName] is operating in a degraded state.

Explanation: IMM has detected that the DMI Bus is degraded.

Severity: Warning

Alert Category: Warning - Other

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0246

SNMP Trap ID: 60

Automatically notify Support: No

User response: Complete the following steps:

1. AC cycle the machine
2. Remove CPU 1 and inspect the CPU socket for bent pins.
3. Swap CPU 1 and CPU 2. If the error goes away, replace the original CPU 1.
4. If the problem persists, System board may need to be replaced.(Trained service personnel only)

81010002-2801ffff Numeric sensor [NumericSensorElementName] going low (lower non-critical) has deasserted.

Explanation: A previously low CMOS battery voltage has returned to above its specified threshold

Severity: Info

Alert Category: Warning - Voltage

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0477

SNMP Trap ID: 13

Automatically notify Support: No

User response: Information only; no action is required.

81010202-0701ffff Numeric sensor [NumericSensorElementName] going low (lower critical) has deasserted.

Explanation: A previously low voltage has returned to above its specified threshold (sensor Planar 12V, Planar 3.3V, or Planar 5V).

Severity: Info

Alert Category: Critical - Voltage

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0481

SNMP Trap ID: 1

Automatically notify Support: No

User response: Information only; no action is required.

81010202-2801ffff Numeric sensor [NumericSensorElementName] going low (lower critical) has deasserted.

Explanation: The previously low CMOS battery voltage has returned to above its specified threshold.

Severity: Info

Alert Category: Critical - Voltage

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0481

SNMP Trap ID: 1

Automatically notify Support: No

User response: Information only; no action is required.

81010204-1d01ffff Numeric sensor [NumericSensorElementName] going low (lower critical) has deasserted.

Explanation: IMM has detected a Fan 1 (Fan 1A Tach, Fan 1B Tach) going low has deasserted.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0481

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

81010204-1d02ffff Numeric sensor [NumericSensorElementName] going low (lower critical) has deasserted.

Explanation: IMM has detected a Fan 2 (Fan 2A Tach, Fan 2B Tach) going low has deasserted.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0481

SNMP Trap ID: 11

Automatically notify Support: No

81010701-1402ffff Numeric sensor
 [NumericSensorElementName] going
 high (upper non-critical) has deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010701-1403ffff Numeric sensor
 [NumericSensorElementName] going
 high (upper non-critical) has deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010701-1404ffff Numeric sensor
 [NumericSensorElementName] going
 high (upper non-critical) has deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010701-1405ffff Numeric sensor
 [NumericSensorElementName] going
 high (upper non-critical) has deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010701-1406ffff Numeric sensor
 [NumericSensorElementName] going
 high (upper non-critical) has deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010701-1407ffff Numeric sensor
 [NumericSensorElementName] going
 high (upper non-critical) has deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010701-1408ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-critical) has deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010701-1409ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-critical) has deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010701-140affff Numeric sensor
[NumericSensorElementName] going
high (upper non-critical) has deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010701-140bffff Numeric sensor
[NumericSensorElementName] going
high (upper non-critical) has deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010701-140cffff Numeric sensor
[NumericSensorElementName] going
high (upper non-critical) has deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010701-2701ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-critical) has deasserted.

Explanation: IMM has detected that the ambient temperature has returned to a normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010701-2d01ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-critical) has deasserted.

Explanation: IMM has detected that the PCH temperature has returned to a normal range.

Severity: Info

Alert Category: Warning - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0491

SNMP Trap ID: 12

Automatically notify Support: No

User response: Information only; no action is required.

81010901-1401ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010901-1402ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010901-1403ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010901-1404ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010901-1405ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010901-1406ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010901-1407ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010901-1408ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010901-1409ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010901-140affff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010901-140bffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010901-140cffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010901-2701ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that the ambient temperature has returned to a normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Ambient Temp: Information only; no action is required.

81010901-2d01ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: IMM has detected that the PCH temperature has returned to a normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81010902-0701ffff Numeric sensor
[NumericSensorElementName] going
high (upper critical) has deasserted.

Explanation: A previously high voltage has returned to below its specified threshold (sensor Planar 12V, Planar 3.3V, or Planar 5V).

Severity: Info

Alert Category: Critical - Voltage

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0495

SNMP Trap ID: 1

Automatically notify Support: No

User response: Information only; no action is required.

81010b01-1401ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-recoverable) has
deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Planar VR1 Temp: Information only; no action is required.

81010b01-1402ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-recoverable) has
deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Planar VR2 Temp: Information only; no action is required.

81010b01-1403ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-recoverable) has
deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Planar VR3 Temp: Information only; no action is required.

81010b01-1404ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-recoverable) has
deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Planar VR4 Temp: Information only; no action is required.

81010b01-1405ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-recoverable) has
deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Planar VR5 Temp: Information only; no action is required.

81010b01-1406ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-recoverable) has
deasserted.

Explanation: IMM has detected that a system board voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Planar VR6 Temp: Information only; no action is required.

81010b01-1407ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-recoverable) has
deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Mezz VR1 Temp: Information only; no action is required.

81010b01-1408ffff Numeric sensor
[NumericSensorElementName] going
high (upper non-recoverable) has
deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Mezz VR2 Temp: Information only; no action is required.

81010b01-1409ffff **Numeric sensor**
 [NumericSensorElementName] going
 high (upper non-recoverable) has
 deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Mezz VR3 Temp: Information only; no action is required.

81010b01-140affff **Numeric sensor**
 [NumericSensorElementName] going
 high (upper non-recoverable) has
 deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Mezz VR4 Temp: Information only; no action is required.

81010b01-140bffff **Numeric sensor**
 [NumericSensorElementName] going
 high (upper non-recoverable) has
 deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Mezz VR5 Temp: Information only; no action is required.

81010b01-140cffff **Numeric sensor**
 [NumericSensorElementName] going
 high (upper non-recoverable) has
 deasserted.

Explanation: IMM has detected that a microprocessor and memory expansion tray voltage regulator temperature has returned to the normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Mezz VR6 Temp: Information only; no action is required.

81010b01-2701ffff **Numeric sensor**
 [NumericSensorElementName] going
 high (upper non-recoverable) has
 deasserted.

Explanation: IMM has detected that the ambient temperature has returned to a normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Ambient Temp: Information only; no action is required.

81010b01-2d01ffff **Numeric sensor**
 [NumericSensorElementName] going
 high (upper non-recoverable) has
 deasserted.

Explanation: IMM has detected that the PCH temperature has returned to a normal range.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0499

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81030006-2101ffff Sensor [SensorElementName] has asserted.

Explanation: Signature verification of one of the Firmware Volumes or Capsules in UEFI BIOS failed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0508

SNMP Trap ID:

Automatically notify Support: No

User response: Automatic BIOS Recovery (ABR) should cause system to come up from UEFI image in backup bank. Reflash UEFI image in the primary bank. If error does not persist no additional recovery action is required.

81030108-0a01ffff Sensor [SensorElementName] has deasserted.

Explanation: The power supply load has returned to a normal state.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0509

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

8103010e-2581ffff Sensor [SensorElementName] has deasserted.

Explanation: IMM has detected that the memory size has returned to a previous configuration.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0509

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The

UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

81070114-2201ffff Sensor [SensorElementName] has deasserted the transition from normal to non-critical state.

Explanation: Trusted Platform Module (TPM) event has transitioned back to a normal state.

Severity: Info

Alert Category: Warning - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0521

SNMP Trap ID: 60

Automatically notify Support: No

User response: Information only; no action is required.

81070201-0301ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected a CPU 1 Overtemp Sensor transition to less severe from critical.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81070201-0302ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected a CPU 2 Overtemp Sensor transition to less severe from critical.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81070201-0303ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected a CPU 3 Overtemp Sensor transition to less severe from critical.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81070201-0304ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected a CPU 4 Overtemp Sensor transition to less severe from critical.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81070202-0701ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: The Planar Fault sensor no longer detects a problem with the system board.

Severity: Info

Alert Category: Critical - Voltage

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 1

Automatically notify Support: No

User response: Information only; no action is required.

81070204-2584ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected that the power supply fan sensor has transitioned to a less severe state from a critical state.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

81070208-2584ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected a Sensor has transitioned to less severe state from critical.

Severity: Info

Alert Category: Critical - Power

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 4

Automatically notify Support: No

User response: Information only; no action is required.

8107020f-2582ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected that the "No I/O Resources" sensor has transitioned to a less severe state.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

81070219-0701ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: The Sys Board Fault sensor no longer detects a problem with the system board.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

8107021b-0301ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected that CPU 1 has recovered from a QPI Link Error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

8107021b-0302ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected that CPU 2 has recovered from a QPI Link Error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

8107021b-0303ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected that CPU 3 has recovered from a QPI Link Error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

8107021b-0304ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected that CPU 4 has recovered from a QPI Link Error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

81070221-1f01ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected that CPU 1 has recovered from a QPI Link Error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

81070221-1f02ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected that CPU 2 has recovered from a QPI Link Error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

81070221-1f03ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected that CPU 3 has recovered from a QPI Link Error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

81070221-1f04ffff Sensor [SensorElementName] has transitioned to a less severe state from critical.

Explanation: IMM has detected that CPU 4 has recovered from a QPI Link Error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0523

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

81070301-0301ffff Sensor [SensorElementName] has deasserted the transition to non-recoverable from a less severe state.

Explanation: The microprocessor 1 temperature has returned to below its specified threshold.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0525

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81070301-0302ffff Sensor [SensorElementName] has deasserted the transition to non-recoverable from a less severe state.

Explanation: The microprocessor 2 temperature has returned to below its specified threshold.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0525

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81070301-0303ffff Sensor [SensorElementName] has deasserted the transition to non-recoverable from a less severe state.

Explanation: The microprocessor 3 temperature has returned to below its specified threshold.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0525

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81070301-0304ffff Sensor [SensorElementName] has deasserted the transition to non-recoverable from a less severe state.

Explanation: The microprocessor 4 temperature has returned to below its specified threshold.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0525

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

81070608-2584ffff Sensor [SensorElementName] has deasserted the transition to non-recoverable.

Explanation: IMM has detected that the Sensor is no longer in a fault condition. (PS 12V OC Fault, PS 12V OV Fault, PS 12V UV Fault, or PS AUX UV Fault)

Severity: Info

Alert Category: Critical - Power

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0531

SNMP Trap ID: 4

Automatically notify Support: No

User response: Information only; no action is required.

8107060f-2201ffff Sensor [SensorElementName] has deasserted the transition to non-recoverable.

Explanation: IMM has detected that the Trusted Platform Module (TPM) has recovered from the initialization error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0531

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

8108000f-2101ffff Device [LogicalDeviceElementName] has been added.

Explanation: IMM has detected a Trusted Platform Module (TPM) physical presence switch was asserted.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0536

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

810b0108-1381ffff Redundancy Lost for [RedundancySetElementName] has deasserted.

Explanation: Power unit redundancy has been regained.

Severity: Info

Alert Category: Critical - Redundant Power Supply

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0803

SNMP Trap ID: 9

Automatically notify Support: No

User response: Information only; no action is required.

810b010a-1e81ffff Redundancy Lost for [RedundancySetElementName] has deasserted.

Explanation: Fan 1 redundancy has been regained.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0803

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

810b010a-1e82ffff Redundancy Lost for
[RedundancySetElementName] has
deasserted.

Explanation: Fan 2 redundancy has been regained.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0803

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

810b010a-1e83ffff Redundancy Lost for
[RedundancySetElementName] has
deasserted.

Explanation: Fan 3 redundancy has been regained.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0803

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

810b010a-1e84ffff Redundancy Lost for
[RedundancySetElementName] has
deasserted.

Explanation: Fan 4 redundancy has been regained.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0803

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

810b010a-1e85ffff Redundancy Lost for
[RedundancySetElementName] has
deasserted.

Explanation: Fan 5 redundancy has been regained.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0803

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

810b010a-1e86ffff Redundancy Lost for
[RedundancySetElementName] has
deasserted.

Explanation: Fan 6 redundancy has been regained.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0803

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

810b010c-2581ffff Redundancy Lost for
[RedundancySetElementName] has
deasserted.

Explanation: Memory component group has regained its redundancy

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0803

SNMP Trap ID: 41

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

810b0208-1381ffff Redundancy Degraded for
[RedundancySetElementName] has
deasserted.

Explanation: Power unit has regained its redundancy

Severity: Info

Alert Category: Warning - Redundant Power Supply

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0805

SNMP Trap ID: 10

Automatically notify Support: No

User response: Information only; no action is required.

810b0308-1381ffff Non-redundant:Sufficient Resources from Redundancy Degraded or Fully Redundant for [RedundancySetElementName] has deasserted.

Explanation: Power unit has regained its redundancy.

Severity: Info

Alert Category: Warning - Redundant Power Supply

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0807

SNMP Trap ID: 10

Automatically notify Support: No

User response: Information only; no action is required.

810b0309-0a01ffff Non-redundant:Sufficient Resources from Redundancy Degraded or Fully Redundant for [RedundancySetElementName] has deasserted.

Explanation: Power unit has regained its redundancy.

Severity: Info

Alert Category: Warning - Redundant Power Supply

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0807

SNMP Trap ID: 10

Automatically notify Support: No

User response: Information only; no action is required.

810b030c-2581ffff Non-redundant:Sufficient Resources from Redundancy Degraded or Fully Redundant for [RedundancySetElementName] has deasserted.

Explanation: Memory component group has regained its redundancy.

Severity: Info

Alert Category: Warning - Memory

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0807

SNMP Trap ID: 43

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

810b0508-1381ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has deasserted.

Explanation: Power unit has regained its redundancy.

Severity: Info

Alert Category: Critical - Redundant Power Supply

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0811

SNMP Trap ID: 9

Automatically notify Support: No

User response: Information only; no action is required.

810b0509-0a01ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has deasserted.

Explanation: Power unit has regained its redundancy.

Severity: Info

Alert Category: Critical - Redundant Power Supply

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0811

SNMP Trap ID: 9

Automatically notify Support: No

User response: Information only; no action is required.

810b050a-1e81ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has deasserted.

Explanation: Fan 1 has regained its redundancy.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0811

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

810b050a-1e82ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has deasserted.

Explanation: Fan 2 has regained its redundancy.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0811

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

810b050a-1e83ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has deasserted.

Explanation: Fan 3 has regained its redundancy.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0811

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

810b050a-1e84ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has deasserted.

Explanation: Fan 4 has regained its redundancy.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0811

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

810b050a-1e85ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has deasserted.

Explanation: Fan 5 has regained its redundancy.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0811

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

810b050a-1e86ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has deasserted.

Explanation: Fan 6 has regained its redundancy.

Severity: Info

Alert Category: Critical - Fan Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0811

SNMP Trap ID: 11

Automatically notify Support: No

User response: Information only; no action is required.

810b050c-2581ffff Non-redundant:Insufficient Resources for [RedundancySetElementName] has deasserted.

Explanation: Memory component group has regained its redundancy.

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0811

SNMP Trap ID: 41

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI

diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0007-0301ffff [ProcessorElementName] has Recovered from IERR.

Explanation: IMM has detected that processor 1 recovered from an IERR condition.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0043

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0007-0302ffff [ProcessorElementName] has Recovered from IERR.

Explanation: IMM has detected that processor 2 recovered from an IERR condition.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0043

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0007-0303ffff [ProcessorElementName] has Recovered from IERR.

Explanation: IMM has detected that processor 3 recovered from an IERR condition.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0043

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The

UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0007-0304ffff [ProcessorElementName] has Recovered from IERR.

Explanation: IMM has detected that processor 4 recovered from an IERR condition.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0043

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0008-0a01ffff [PowerSupplyElementName] has been removed from container [PhysicalPackageElementName].

Explanation: IMM has detected that Power Supply 1 has been removed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0085

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f0008-0a02ffff [PowerSupplyElementName] has been removed from container [PhysicalPackageElementName].

Explanation: IMM has detected that Power Supply 2 has been removed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0085

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f0009-1381ffff [PowerSupplyElementName] has been turned on.

Explanation: IMM has detected that the system power has been turned on.

Severity: Info

Alert Category: System - Power On

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0107

SNMP Trap ID: 24

Automatically notify Support: No

User response: Information only; no action is required.

816f000d-0400ffff The [NumericSensorElementName] has been removed from unit [PhysicalPackageElementName].

Explanation: Presence of drive 0 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0401ffff The [NumericSensorElementName] has been removed from unit [PhysicalPackageElementName].

Explanation: Presence of drive 1 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0402ffff The [NumericSensorElementName] has been removed from unit [PhysicalPackageElementName].

Explanation: Presence of drive 2 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0403ffff The [NumericSensorElementName] has been removed from unit [PhysicalPackageElementName].

Explanation: Presence of drive 3 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0404ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 4 is no longer detected.
If hard drive is absent from drive bay a filler is
required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0405ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 5 is no longer detected.
If hard drive is absent from drive bay a filler is
required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0406ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 6 is no longer detected.
If hard drive is absent from drive bay a filler is
required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0407ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 7 is no longer detected.
If hard drive is absent from drive bay a filler is
required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0408ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 8 is no longer detected.
If hard drive is absent from drive bay a filler is
required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0409ffff The [NumericSensorElementName] has been removed from unit [PhysicalPackageElementName].

Explanation: Presence of drive 9 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-040affff The [NumericSensorElementName] has been removed from unit [PhysicalPackageElementName].

Explanation: Presence of drive 10 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-040bffff The [NumericSensorElementName] has been removed from unit [PhysicalPackageElementName].

Explanation: Presence of drive 11 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-040cffff The [NumericSensorElementName] has been removed from unit [PhysicalPackageElementName].

Explanation: Presence of drive 12 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-040dffff The [NumericSensorElementName] has been removed from unit [PhysicalPackageElementName].

Explanation: Presence of drive 13 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-040effff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 14 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-040fffff The [NumericSensorElementName]
has been removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 15 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0410ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 16 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0411ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 17 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0412ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 18 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0413ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 19 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0414ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 20 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0415ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 21 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0416ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 22 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0417ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 23 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0418ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 24 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-0419ffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 25 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-041affff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 26 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-041bffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 27 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-041cffff The [NumericSensorElementName]
has been removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 28 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-041dffff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 29 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-041effff The
[NumericSensorElementName] has been
removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 30 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000d-041ffffff The [NumericSensorElementName]
has been removed from unit
[PhysicalPackageElementName].

Explanation: Presence of drive 31 is no longer detected. If hard drive is absent from drive bay a filler is required.

Severity: Error

Alert Category: Critical - Hard Disk drive

Serviceable: Yes

CIM Information: Prefix: PLAT and ID: 0163

SNMP Trap ID: 5

Automatically notify Support: No

User response:

- If drive was intentionally removed, no action required.
- Make sure that the drive properly seated.
- If drive is properly seated, replace the drive.

816f000f-2201ffff The System
[ComputerSystemElementName] has
detected a POST Error deassertion.

Explanation: IMM has detected that Post Error has deasserted. (ABR Status or Firmware Error).

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0185

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f000f-2202ffff The System
[ComputerSystemElementName] has
detected a POST Error deassertion.

Explanation: This message indicates a Post Error is no longer present.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0185

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0013-1701ffff System
[ComputerSystemElementName] has
recovered from a diagnostic interrupt.

Explanation: The system has recovered from a NMI / Diagnostic Interrupt.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0223

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0021-0b01ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName].

Explanation: IMM has detected a fault condition in PCIe slot 1 has been removed.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0021-0b02ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName].

Explanation: IMM has detected a fault condition in PCIe slot 2 has been removed.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0021-0b03ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName].

Explanation: IMM has detected a fault condition in PCIe slot 3 has been removed.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0021-0b04ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName].

Explanation: IMM has detected a fault condition in PCIe slot 4 has been removed.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0021-0b05ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName].

Explanation: IMM has detected a fault condition in PCIe slot 5 has been removed.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0021-0b06ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName].

Explanation: IMM has detected a fault condition in PCIe slot 6 has been removed.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0021-0b07ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName].

Explanation: IMM has detected a fault condition in PCIe slot 7 has been removed.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0021-0b08ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName].

Explanation: IMM has detected a fault condition in PCIe slot 8 has been removed.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0021-2201ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName].

Explanation: IMM has detected a Fault condition in a slot has been removed.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0021-2582ffff Fault condition removed on slot [PhysicalConnectorElementName] on system [ComputerSystemElementName].

Explanation: IMM has detected that a fault condition in a PCIe slot has been removed.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0331

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0028-2101ffff Sensor [SensorElementName] has returned to normal on management system [ComputerSystemElementName].

Explanation: Trusted Platform Module (TPM) was initialized and started successfully.

Severity: Info

Alert Category: Warning - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0399

SNMP Trap ID: 60

Automatically notify Support: No

User response: Information Only; no action is required.

816f0107-0301ffff An Over-Temperature Condition has been removed on [ProcessorElementName].

Explanation: The microprocessor 1 temperature has returned to below the critical level.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0037

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

816f0107-0302ffff An Over-Temperature Condition has been removed on [ProcessorElementName].

Explanation: The microprocessor 2 temperature has returned to below the critical level.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0037

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

816f0107-0303ffff An Over-Temperature Condition has been removed on [ProcessorElementName].

Explanation: The microprocessor 3 temperature has returned to below the critical level.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0037

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

816f0107-0304ffff An Over-Temperature Condition has been removed on [ProcessorElementName].

Explanation: The microprocessor 4 temperature has returned to below the critical level.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0037

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

816f0108-0a01ffff [PowerSupplyElementName] has returned to OK status.

Explanation: IMM has detected that Power Supply 1 has returned to a normal operational status.

Severity: Info

Alert Category: Critical - Power

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0087

SNMP Trap ID: 4

Automatically notify Support: No

User response: Information only; no action is required.

816f0108-0a02ffff [PowerSupplyElementName] has returned to OK status.

Explanation: IMM has detected that Power Supply 2 has returned to a normal operational status.

Severity: Info

Alert Category: Critical - Power

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0087

SNMP Trap ID: 4

Automatically notify Support: No

User response: Information only; no action is required.

816f010c-2581ffff Uncorrectable error recovery detected for [PhysicalMemoryElementName] on Subsystem [MemoryElementName].

Explanation: IMM has detected a recovery from an uncorrectable memory error.

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0139

SNMP Trap ID: 41

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f010d-0400ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 0 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0401ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 1 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0402ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 2 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0403ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 3 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0404ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 4 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0405ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 5 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0406ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 6 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0407ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 7 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0408ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 8 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0409ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 9 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-040affff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 10 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-040bffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 11 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-040cffff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 12 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-040dffff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 13 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-040effff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 14 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-040fffff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 15 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0410ffff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 16 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0411ffff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 17 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0412ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 18 has
been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f010d-0413ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 19 has
been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f010d-0414ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 20 has
been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f010d-0415ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 21 has
been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f010d-0416ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 22 has
been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f010d-0417ffff The
[NumericSensorElementName] has been
enabled.

Explanation: The previously disabled drive 23 has
been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f010d-0418ffff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 24 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-0419ffff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 25 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-041affff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 26 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-041bffff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 27 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-041cffff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 28 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-041dffff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 29 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-041effff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 30 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010d-041fffff The [NumericSensorElementName] has been enabled.

Explanation: The previously disabled drive 31 has been enabled.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0167

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f010f-2201ffff The System [ComputerSystemElementName] has recovered from a firmware hang.

Explanation: IMM has recovered from a System Firmware Hang.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0187

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f011b-0701ffff The connector [PhysicalConnectorElementName] configuration error has been repaired.

Explanation: IMM has detected an Interconnect Configuration error has been repaired.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0267

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0125-0c01ffff [ManagedElementName] detected as present.

Explanation: IMM has detected the operator information panel is present.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0390

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f0207-0301ffff [ProcessorElementName] has Recovered from FRB1/BIST condition.

Explanation: IMM has detected that Processor 1 has recovered from a FRB1/BIST condition.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0045

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0207-0302ffff [ProcessorElementName] has
Recovered from FRB1/BIST condition.

Explanation: IMM has detected that Processor 2 has recovered from a FRB1/BIST condition.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0045

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0207-0303ffff [ProcessorElementName] has
Recovered from FRB1/BIST condition.

Explanation: IMM has detected that Processor 3 has recovered from a FRB1/BIST condition.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0045

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0207-0304ffff [ProcessorElementName] has
Recovered from FRB1/BIST condition.

Explanation: IMM has detected that Processor 4 has recovered from a FRB1/BIST condition.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0045

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of

the Info Center for the appropriate user response.

816f0207-2583ffff [ProcessorElementName] has
Recovered from FRB1/BIST condition.

Explanation: IMM has detected that a Processor has recovered from a FRB1/BIST condition.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0045

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f020d-0400ffff Failure no longer Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: The predicted failure for Drive 0 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0401ffff Failure no longer Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: The predicted failure for Drive 1 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0402ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 2 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0403ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 3 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0404ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 4 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0405ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 5 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0406ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 6 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0407ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 7 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0408ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 8 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0409ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 9 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-040affff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 10 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-040bffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 11 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-040cffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 12 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-040dffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 13 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-040effff Failure no longer Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: The predicted failure for Drive 14 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-040fffff Failure no longer Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: The predicted failure for Drive 15 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0410ffff Failure no longer Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: The predicted failure for Drive 16 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0411ffff Failure no longer Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: The predicted failure for Drive 17 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0412ffff Failure no longer Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: The predicted failure for Drive 18 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0413ffff Failure no longer Predicted on
[NumericSensorElementName] for array
[ComputerSystemElementName].

Explanation: The predicted failure for Drive 19 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0414ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 20 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0415ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 21 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0416ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 22 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0417ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 23 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0418ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 24 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-0419ffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 25 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-041affff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 26 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-041bffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 27 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-041cffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 28 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-041dffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 29 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-041effff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 30 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f020d-041fffff Failure no longer Predicted on [NumericSensorElementName] for array [ComputerSystemElementName].

Explanation: The predicted failure for Drive 31 no longer exists.

Severity: Info

Alert Category: System - Predicted Failure

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0169

SNMP Trap ID: 27

Automatically notify Support: No

User response: Information only; no action is required.

816f0308-0a01ffff [PowerSupplyElementName] has returned to a Normal Input State.

Explanation: IMM has detected that the input power for Power Supply 1 has returned to normal.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0099

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f0308-0a02ffff [PowerSupplyElementName] has returned to a Normal Input State.

Explanation: IMM has detected that the input power for Power Supply 2 has returned to normal.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0099

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f030c-2581ffff Scrub Failure for [PhysicalMemoryElementName] on Subsystem [MemoryElementName] has recovered.

Explanation: IMM has detected a Memory Scrub failure recovery. (Planar DIMMs)

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0137

SNMP Trap ID: 41

Automatically notify Support: No

User response: Information only; no action is required.

816f0313-1701ffff System [ComputerSystemElementName] has recovered from an NMI.

Explanation: IMM has detected a Software NMI has been Recovered from.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0230

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f040c-2581ffff [PhysicalMemoryElementName] Enabled on Subsystem [MemoryElementName].

Explanation: IMM has detected that Memory has been Enabled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0130

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0507-0301ffff [ProcessorElementName] has Recovered from a Configuration Mismatch.

Explanation: Processor 1 has Recovered from a Processor Configuration Mismatch.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0063

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of

the Info Center for the appropriate user response.

816f0507-0302ffff [ProcessorElementName] has Recovered from a Configuration Mismatch.

Explanation: Processor 2 has Recovered from a Processor Configuration Mismatch.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0063

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0507-0303ffff [ProcessorElementName] has Recovered from a Configuration Mismatch.

Explanation: Processor 3 has Recovered from a Processor Configuration Mismatch.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0063

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0507-0304ffff [ProcessorElementName] has Recovered from a Configuration Mismatch.

Explanation: Processor 4 has Recovered from a Processor Configuration Mismatch.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0063

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0507-2583ffff [ProcessorElementName] has Recovered from a Configuration Mismatch.

Explanation: One or more processors have recovered from a processor configuration mismatch.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0063

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f050c-2581ffff Memory Logging Limit Removed for [PhysicalMemoryElementName] on Subsystem [MemoryElementName].

Explanation: IMM has detected that the Memory Logging Limit has been Removed.

Severity: Info

Alert Category: Warning - Memory

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0145

SNMP Trap ID: 43

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f050d-0400ffff Critical Array [ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0401ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0402ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0403ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0404ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0405ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0406ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0407ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0408ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0409ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-040affff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-040bffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-040cffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-040dffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-040effff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-040fffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0410ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0411ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0412ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0413ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0414ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0415ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0416ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0417ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0418ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-0419ffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-041affff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-041bffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-041cffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-041dffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-041effff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f050d-041fffff Critical Array
[ComputerSystemElementName] has deasserted.

Explanation: The RAID array is no longer in a critical condition.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0175

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f0607-0301ffff An SM BIOS Uncorrectable CPU complex error for CPU 1 has deasserted.

Explanation: An SM BIOS uncorrectable CPU complex error has been deasserted for microprocessor 1.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0817

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0607-0302ffff An SM BIOS Uncorrectable CPU complex error for [ProcessorElementName] has deasserted.

Explanation: An SM BIOS uncorrectable CPU complex error has been deasserted for microprocessor 2.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0817

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0607-0303ffff An SM BIOS Uncorrectable CPU complex error for [ProcessorElementName] has deasserted.

Explanation: An SM BIOS uncorrectable CPU complex error has been deasserted for microprocessor 3.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0817

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0607-0304ffff An SM BIOS Uncorrectable CPU complex error for [ProcessorElementName] has deasserted.

Explanation: An SM BIOS uncorrectable CPU complex error has been deasserted for microprocessor 4.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0817

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0607-2583ffff An SM BIOS Uncorrectable CPU complex error for [ProcessorElementName] has deasserted.

Explanation: SM BIOS Uncorrectable CPU complex error has deasserted.

Severity: Info

Alert Category: Critical - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0817

SNMP Trap ID: 40

Automatically notify Support: No

User response: This is a UEFI detected event. The

UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0608-2584ffff [PowerSupplyElementName]
Configuration is OK.

Explanation: Power Supply configuration is OK.

Severity: Info

Alert Category: Critical - Power

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0105

SNMP Trap ID: 4

Automatically notify Support: No

User response: Information only; no action is required.

816f060d-0400ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f060d-0401ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f060d-0402ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f060d-0403ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f060d-0404ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is required.

816f060d-0405ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0406ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0407ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0408ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0409ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-040affff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-040bffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-040cffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-040dffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-040effff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-040fffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0410ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0411ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0412ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0413ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0414ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0415ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0416ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0417ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0418ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-0419ffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-041affff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-041bffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-041cffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-041dffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-041effff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f060d-041fffff Array in system
[ComputerSystemElementName] has
been restored.

Explanation: IMM has detected that a Failed Array
has been Restored.

Severity: Info

Alert Category: Critical - Hard Disk drive

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0177

SNMP Trap ID: 5

Automatically notify Support: No

User response: Information only; no action is
required.

816f0707-0301ffff [ProcessorElementName] in slot
[SlotElementName] has been removed.

Explanation: IMM has detected that Processor 1 has
been removed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0035

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is
required.

816f070c-2581ffff Configuration error for
[PhysicalMemoryElementName] on
Subsystem [MemoryElementName]has
deasserted.

Explanation: IMM has detected a Memory DIMM
configuration error has deasserted.

Severity: Info

Alert Category: Critical - Memory

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0127

SNMP Trap ID: 41

Automatically notify Support: No

User response: This is a UEFI detected event. The
UEFI diagnostic code for this event can be found in the
logged IMM message text. Please refer to the UEFI
diagnostic code in the "UEFI diagnostic code" section of
the Info Center for the appropriate user response.

816f070d-0400ffff Rebuild completed for Array in
system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild
has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is
required.

816f070d-0401ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0402ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0403ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0404ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0405ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0406ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0407ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0408ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0409ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-040affff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-040bffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-040cffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-040dffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-040effff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-040ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0410ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0411ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0412ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0413ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0414ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0415ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0416ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0417ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0418ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-0419ffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-041affff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-041bffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-041cffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-041dffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-041effff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f070d-041fffff Rebuild completed for Array in system [ComputerSystemElementName].

Explanation: IMM has detected that an Array Rebuild has Completed.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0179

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f0807-0301ffff [ProcessorElementName] has been Enabled.

Explanation: IMM has detected Processor 1 has been Enabled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0060

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0807-0302ffff [ProcessorElementName] has been Enabled.

Explanation: IMM has detected Processor 2 has been Enabled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0060

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0807-0303ffff [ProcessorElementName] has been Enabled.

Explanation: IMM has detected Processor 3 has been Enabled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0060

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0807-0304ffff [ProcessorElementName] has been Enabled.

Explanation: IMM has detected Processor 4 has been Enabled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0060

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0807-2583ffff [ProcessorElementName] has been Enabled.

Explanation: IMM has detected that one or more processors have been enabled.

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0060

SNMP Trap ID:

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of

the Info Center for the appropriate user response.

816f0813-2581ffff Bus [SensorElementName] has recovered from an Uncorrectable Bus

Explanation: IMM has detected that the system has recovered from a bus uncorrectable error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0241

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0813-2582ffff Bus [SensorElementName] has recovered from an Uncorrectable Bus Error.

Explanation: IMM has detected that the system has recovered from a bus uncorrectable error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0241

SNMP Trap ID: 50

Automatically notify Support: No

User response: Information only; no action is required.

816f0813-2583ffff Bus [SensorElementName] has recovered from an Uncorrectable Bus

Explanation: IMM has detected that the system has recovered from a bus uncorrectable error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0241

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f090c-2581ffff [PhysicalMemoryElementName] on Subsystem [MemoryElementName] is no longer Throttled.

Explanation: IMM has detected Memory component group is no longer Throttled. (Planar DIMMs)

Severity: Info

Alert Category: System - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0143

SNMP Trap ID:

Automatically notify Support: No

User response: Information only; no action is required.

816f0a07-0301ffff The Processor [ProcessorElementName] is no longer operating in a Degraded State.

Explanation: IMM has detected Processor 1 is no longer running in the Degraded state.

Severity: Info

Alert Category: Warning - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0039

SNMP Trap ID: 42

Automatically notify Support: No

User response: Information only; no action is required.

816f0a07-0302ffff The Processor [ProcessorElementName] is no longer operating in a Degraded State.

Explanation: IMM has detected Processor 2 is no longer running in the Degraded state.

Severity: Info

Alert Category: Warning - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0039

SNMP Trap ID: 42

Automatically notify Support: No

User response: Information only; no action is required.

816f0a07-0303ffff The Processor [ProcessorElementName] is no longer operating in a Degraded State.

Explanation: IMM has detected Processor 3 is no longer running in the Degraded state.

Severity: Info

Alert Category: Warning - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0039

SNMP Trap ID: 42

Automatically notify Support: No

User response: Information only; no action is required.

816f0a07-0304ffff The Processor [ProcessorElementName] is no longer operating in a Degraded State.

Explanation: IMM has detected Processor 4 is no longer running in the Degraded state.

Severity: Info

Alert Category: Warning - CPU

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0039

SNMP Trap ID: 42

Automatically notify Support: No

User response: Information only; no action is required.

816f0a0c-2581ffff An Over-Temperature Condition has been removed on the [PhysicalMemoryElementName] on Subsystem [MemoryElementName].

Explanation: IMM has detected an Over Temperature Condition for Memory component group that has been Removed.

Severity: Info

Alert Category: Critical - Temperature

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0147

SNMP Trap ID: 0

Automatically notify Support: No

User response: Information only; no action is required.

816f0a13-2401ffff Bus [SensorElementName] has recovered from a Fatal Bus Error.

Explanation: IMM has detected that the system has recovered from a fatal bus error.

Severity: Info

Alert Category: Critical - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0245

SNMP Trap ID: 50

Automatically notify Support: No

User response: This is a UEFI detected event. The UEFI diagnostic code for this event can be found in the logged IMM message text. Please refer to the UEFI diagnostic code in the "UEFI diagnostic code" section of the Info Center for the appropriate user response.

816f0b13-3101ffff Bus [SensorElementName] is no longer operating in a degraded state.

Explanation: IMM has detected the DMI Bus is No Longer Degraded.

Severity: Info

Alert Category: Warning - Other

Serviceable: No

CIM Information: Prefix: PLAT and ID: 0247

SNMP Trap ID: 60

Automatically notify Support: No

User response: Information only; no action is required.

Appendix E. Getting help and technical assistance

If you need help, service, or technical assistance or just want more information about IBM products, you will find a wide variety of sources available from IBM to assist you.

Use this information to obtain additional information about IBM and IBM products, determine what to do if you experience a problem with your IBM system or optional device, and determine whom to call for service, if it is necessary.

Before you call

Before you call, make sure that you have taken these steps to try to solve the problem yourself.

If you believe that you require IBM to perform warranty service on your IBM product, the IBM service technicians will be able to assist you more efficiently if you prepare before you call.

- Check all cables to make sure that they are connected.
- Check the power switches to make sure that the system and any optional devices are turned on.
- Check for updated software, firmware, and operating-system device drivers for your IBM product. The IBM Warranty terms and conditions state that you, the owner of the IBM product, are responsible for maintaining and updating all software and firmware for the product (unless it is covered by an additional maintenance contract). Your IBM service technician will request that you upgrade your software and firmware if the problem has a documented solution within a software upgrade.
- If you have installed new hardware or software in your environment, check <http://www.ibm.com/systems/info/x86servers/serverproven/compat/us> to make sure that the hardware and software is supported by your IBM product.
- Go to <http://www.ibm.com/supportportal> to check for information to help you solve the problem.
- Gather the following information to provide to IBM Support. This data will help IBM Support quickly provide a solution to your problem and ensure that you receive the level of service for which you might have contracted.
 - Hardware and Software Maintenance agreement contract numbers, if applicable
 - Machine type number (IBM 4-digit machine identifier)
 - Model number
 - Serial number
 - Current system UEFI and firmware levels
 - Other pertinent information such as error messages and logs
- Go to http://www.ibm.com/support/entry/portal/Open_service_request to submit an Electronic Service Request. Submitting an Electronic Service Request will start the process of determining a solution to your problem by making the pertinent information available to IBM Support quickly and efficiently. IBM service technicians can start working on your solution as soon as you have completed and submitted an Electronic Service Request.

You can solve many problems without outside assistance by following the troubleshooting procedures that IBM provides in the online help or in the documentation that is provided with your IBM product. The documentation that comes with IBM systems also describes the diagnostic tests that you can perform. Most systems, operating systems, and programs come with documentation that contains troubleshooting procedures and explanations of error messages and error codes. If you suspect a software problem, see the documentation for the operating system or program.

Using the documentation

Information about your IBM system and preinstalled software, if any, or optional device is available in the documentation that comes with the product. That documentation can include printed documents, online documents, readme files, and help files.

See the troubleshooting information in your system documentation for instructions for using the diagnostic programs. The troubleshooting information or the diagnostic programs might tell you that you need additional or updated device drivers or other software. IBM maintains pages on the World Wide Web where you can get the latest technical information and download device drivers and updates. To access these pages, go to <http://www.ibm.com/supportportal>.

Getting help and information from the World Wide Web

Up-to-date information about IBM products and support is available on the World Wide Web.

On the World Wide Web, up-to-date information about IBM systems, optional devices, services, and support is available at <http://www.ibm.com/supportportal>. IBM System x information is at <http://www.ibm.com/systems/x>. IBM BladeCenter information is at <http://www.ibm.com/systems/bladecenter>. IBM IntelliStation information is at <http://www.ibm.com/systems/intellistation>.

How to send DSA data to IBM

Use the IBM Enhanced Customer Data Repository to send diagnostic data to IBM.

Before you send diagnostic data to IBM, read the terms of use at <http://www.ibm.com/de/support/ecurep/terms.html>.

You can use any of the following methods to send diagnostic data to IBM:

- **Standard upload:** http://www.ibm.com/de/support/ecurep/send_http.html
- **Standard upload with the system serial number:** http://www.ecurep.ibm.com/app/upload_hw
- **Secure upload:** http://www.ibm.com/de/support/ecurep/send_http.html#secure
- **Secure upload with the system serial number:** https://www.ecurep.ibm.com/app/upload_hw

Creating a personalized support web page

You can create a personalized support web page by identifying IBM products that are of interest to you.

To create a personalized support web page, go to <http://www.ibm.com/support/mynotifications>. From this personalized page, you can subscribe to weekly email notifications about new technical documents, search for information and downloads, and access various administrative services.

Software service and support

Through IBM Support Line, you can get telephone assistance, for a fee, with usage, configuration, and software problems with your IBM products.

For more information about Support Line and other IBM services, see <http://www.ibm.com/services> or see <http://www.ibm.com/planetwide> for support telephone numbers. In the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

Hardware service and support

You can receive hardware service through your IBM reseller or IBM Services.

To locate a reseller authorized by IBM to provide warranty service, go to <http://www.ibm.com/partnerworld/> and click **Find Business Partners** on the right side of the page. For IBM support telephone numbers, see <http://www.ibm.com/planetwide>. In the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

In the U.S. and Canada, hardware service and support is available 24 hours a day, 7 days a week. In the U.K., these services are available Monday through Friday, from 9 a.m. to 6 p.m.

IBM Taiwan product service

Use this information to contact IBM Taiwan product service.

台灣 IBM 產品服務聯絡方式：
台灣國際商業機器股份有限公司
台北市松仁路 7 號 3 樓
電話：0800-016-888

IBM Taiwan product service contact information:

IBM Taiwan Corporation
3F, No 7, Song Ren Rd.
Taipei, Taiwan
Telephone: 0800-016-888

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Important notes

Processor speed indicates the internal clock speed of the microprocessor; other factors also affect application performance.

CD or DVD drive speed is the variable read rate. Actual speeds vary and are often less than the possible maximum.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1024 bytes, MB stands for 1,048,576 bytes, and GB stands for 1,073,741,824 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1,000,000 bytes, and GB stands for 1,000,000,000 bytes. Total user-accessible capacity can vary depending on operating environments.

Maximum internal hard disk drive capacities assume the replacement of any standard hard disk drives and population of all hard disk drive bays with the largest currently supported drives that are available from IBM.

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Each solid-state memory cell has an intrinsic, finite number of write cycles that the cell can incur. Therefore, a solid-state device has a maximum number of write cycles that it can be subjected to, expressed as “total bytes written” (TBW). A device that has exceeded this limit might fail to respond to system-generated commands or might be incapable of being written to. IBM is not responsible for replacement of a device that has exceeded its maximum guaranteed number of program/erase cycles, as documented in the Official Published Specifications for the device.

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Particulate contamination

Attention: Airborne particulates (including metal flakes or particles) and reactive gases acting alone or in combination with other environmental factors such as humidity or temperature might pose a risk to the device that is described in this document.

Risks that are posed by the presence of excessive particulate levels or concentrations of harmful gases include damage that might cause the device to malfunction or cease functioning altogether. This specification sets forth limits for particulates and gases that are intended to avoid such damage. The limits must not be viewed or used as definitive limits, because numerous other factors, such as temperature or moisture content of the air, can influence the impact of particulates or environmental corrosives and gaseous contaminant transfer. In the absence of specific limits that are set forth in this document, you must implement practices that maintain particulate and gas levels that are consistent with the protection of human health and safety. If IBM determines that the levels of particulates or gases in your environment have caused damage to the device, IBM may condition provision of repair or replacement of devices or parts on implementation of appropriate remedial measures to mitigate such environmental contamination. Implementation of such remedial measures is a customer responsibility.

Table 30. Limits for particulates and gases

Contaminant	Limits
Particulate	<ul style="list-style-type: none">• The room air must be continuously filtered with 40% atmospheric dust spot efficiency (MERV 9) according to ASHRAE Standard 52.2¹.• Air that enters a data center must be filtered to 99.97% efficiency or greater, using high-efficiency particulate air (HEPA) filters that meet MIL-STD-282.• The deliquescent relative humidity of the particulate contamination must be more than 60%².• The room must be free of conductive contamination such as zinc whiskers.
Gaseous	<ul style="list-style-type: none">• Copper: Class G1 as per ANSI/ISA 71.04-1985³• Silver: Corrosion rate of less than 300 Å in 30 days

Table 30. Limits for particulates and gases (continued)

Contaminant	Limits
¹ ASHRAE 52.2-2008 - <i>Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size</i> . Atlanta: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.	
² The deliquescent relative humidity of particulate contamination is the relative humidity at which the dust absorbs enough water to become wet and promote ionic conduction.	
³ ANSI/ISA-71.04-1985. <i>Environmental conditions for process measurement and control systems: Airborne contaminants</i> . Instrument Society of America, Research Triangle Park, North Carolina, U.S.A.	

Documentation format

The publications for this product are in Adobe Portable Document Format (PDF) and should be compliant with accessibility standards. If you experience difficulties when you use the PDF files and want to request a web-based format or accessible PDF document for a publication, direct your mail to the following address:

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Electronic emission notices

When you attach a monitor to the equipment, you must use the designated monitor cable and any interference suppression devices that are supplied with the monitor.

Federal Communications Commission (FCC) statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio

communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

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Industry Canada Class A emission compliance statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Australia and New Zealand Class A statement

Attention: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Responsible manufacturer:

International Business Machines Corp.
New Orchard Road
Armonk, New York 10504
914-499-1900

European Community contact:

IBM Deutschland GmbH
Technical Regulations, Department M372
IBM-Allee 1, 71139 Ehningen, Germany
Telephone: +49 7032 15 2941
Email: lugi@de.ibm.com

Germany Class A statement

Deutschsprachiger EU Hinweis: Hinweis für Geräte der Klasse A EU-Richtlinie zur Elektromagnetischen Verträglichkeit

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse A ein.

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Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Einhaltung der EMV Vorschriften ist der Hersteller:

International Business Machines Corp.
New Orchard Road
Armonk, New York 10504
914-499-1900

Der verantwortliche Ansprechpartner des Herstellers in der EU ist:

IBM Deutschland GmbH
Technical Regulations, Abteilung M372
IBM-Allee 1, 71139 Ehningen, Germany
Telephone: +49 7032 15 2941
Email: lugi@de.ibm.com

Generelle Informationen:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse A.

Japan VCCI Class A statement

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В жилых помещениях оно может создавать радиопомехи, для
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中华人民共和国“A类”警告声明

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能會造成射頻干擾，在這
種情況下，使用者會被要
求採取某些適當的對策。

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